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National Treatment Agency for Substance Misuse

National evaluation of crack cocaine treatment and outcome study (NECTOS)

A multi-centre evaluation of dedicated crack treatment services

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Crack suite of documents

This document is part of a series of research projects commissioned following the launch of Tackling Crack: A National Plan (Home Office, 2002), which was implemented in 2003. This series was jointly funded by the NTA and the Home Office, to increase the knowledge base around crack treatment.

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1 Method

1.1 Background and study aims

1.1.1 Background

The National Evaluation of Crack Cocaine Treatment and Outcomes (NECTOS) study was commissioned in June 2003 and was designed to evaluate a series of established specialist crack services. The investigators prepared and submitted a research proposal in response to an invitation to tender for the evaluation of ten services. However, by the time the project was commissioned, two services withdrew from the evaluation. The subsequent closure of three more services meant that the evaluation was ultimately conducted in five service settings. Four services provided Tier 3 day services (two of these services also provided Tier 2 interventions) and were subject to a common comparative methodology. One service provided Tier 4 residential care and was subject to a separate evaluation. The services are described in chapter two.

1.1.2 Study aims

The overall aims of the study (as stated in the original proposal) were as follows:

- To measure the effectiveness of specialist crack treatment services in attracting and retaining their target client groups and in achieving stated outcomes
- To provide commissioners, managers and clinicians with:
  - Research-based evidence about the comparative effectiveness of the service models subject to evaluation
  - An assessment of the unit cost of each service per client
- An assessment of how structural and contextual factors and aspects of treatment process impact upon the delivery of key service objectives
- To facilitate the development of a substantive research capacity within crack treatment agencies, thereby providing a strong foundation for future research into the effectiveness of crack treatment.

1.1.3 Specific research objectives

The specific research objectives of the study were to:

- Describe each service in terms of its philosophy, management style, resources, aims and objectives, mode of operation and service activity, and to thereby assess the extent to which each service conforms to its service plan
- Use clients sampled from each service to:
  - Assess to what extent the case-mix of the service matches the stated objectives of the service in terms of the recruitment of specific target group (e.g. women, Black minority ethnic populations, sex workers, younger age groups, clients who have been in contact with criminal justice systems) describe the ways in which services deploy their resources to provide care and treatment
  - Measure the extent to which each service achieves client engagement, retention in treatment and client satisfaction
  - Measure the extent to which services achieve reductions in the use of crack (and other non-prescribed drugs) among their clients over defined follow-up periods
  - Assess the extent to which services achieve change in terms of client risk behaviour, physical and global health, psychiatric and psychological health, social functioning, violence and offending behaviour
- With reference to the view of clients from each service, we will identify factors perceived to promote and hinder engagement and retention in treatment, and factors perceived to be associated with achievement of positive change in their use of crack and cocaine.

1.2 Overview of study design and methodology

In order to meet the above aims and objectives we implemented a multi-method evaluation of the five pilot services. This comprised four linked components:

- Process evaluation: quantitative measurement of service activity and treatment process
- Outcome evaluation: quantitative assessment of client and service-based outcomes
- Economic evaluation: an assessment of unit cost per patient for each service
- Qualitative investigation: qualitative multi-perspective (client, staff, management) investigation of service management, service delivery and treatment process.

1.3 Process and outcome evaluation: Tier 3 services

1.3.1 Methodology

All services were subject to a core evaluation method (measuring process and outcome) with additional service-specific data gathering and analysis. This approach generated comparable measures of process and outcomes for all services and permitted aggregated analysis of data from multiple sites. It also allowed for the significant variation between services in terms of service model and treatment process to be fully described. All data collection methods were approved by the Medical Ethics Research Committee and local NHS trust research and development departments.

1.3.2 Study population

The study was implemented in four specialist drug treatment services (see chapter two). Services were asked to record data about all clients referred to their services within a 17–21 week recruitment period. Our original intention was to recruit clients over an eight-week period. However, this was extended at all services due to lower than anticipated referral rates, high levels of attrition

and lower than anticipated representation of crack users among the referrals received. For logistical reasons the start of recruitment was staggered across the four services during April 2004. Recruitment at all centres had to be truncated at the end of August 2004 to ensure sufficient time for the three month follow-up data to be obtained in all cases. Hence, the recruitment period varied between services. Across the four services, 477 referrals were received. All of these clients were subject to process evaluation procedures. From this total referred population, 99 clients satisfied criteria for inclusion in the outcome evaluation (i.e. they were crack users who started treatment at Tier 3).

1.3.3 Assessments

Due to the characteristics of the client groups, the number of research sites, the timetable and the resources available, it was not feasible for the remote evaluation project team to conduct recruitment and follow-up of the target study population. Instead, research partnerships were developed, with each service asked to recruit and follow-up the target population at their site. All the services were given training in evaluation procedures and ongoing support was provided to the staff collecting the quantitative research data.

The evaluation team worked closely with each service to ensure collection of the core evaluation data-set was integrated with local service information systems and case records. All clients recruited to the process evaluation had their progress monitored using a Treatment Monitoring Questionnaire (TMQ). Structured recording of information was required at referral and (depending on the clients engagement and duration of treatment), subsequently at assessment, after 30 days of treatment, 90 days of treatment and on exit from the service. Keyworkers were asked to record the following information:

- Speed and duration of the assessment and treatment process (the dates of referral, first assessment date offered, actual first assessment date, treatment start date and duration of treatment)
- Demographic details (age, sex, ethnicity, living situation, housing and employment status other service contacts (referral source, other drug, alcohol, general health, social care and criminal justice agencies currently engaged with)
- Legal status of drug use (type of drugs used, frequency of use in last 30 days, spend per day of use)
- Sources of funding for drug use
- Involvement in crime.

Data collection was integrated with routine record systems and the proforma was attached to each client's case record. Clients eligible for inclusion in the outcome evaluation were invited to give their informed consent for participation in the following additional procedures:

- At the point at which each client started Tier 3 treatment they were asked to complete a Baseline Client Questionnaire
- Two questionnaires were to be completed 30 days and 90 days after the start of Tier 3 treatment (assuming the client was still attending the service at these times)
- Keyworkers recorded the frequency, duration and content of all keyworker sessions with this population in the 90-day period following commencement of treatment.

The client questionnaires included a self-completion checklist of questions about drug use (past month crack and cocaine use, other drugs and alcohol, the number of days used in the past 30 and amount spent on drugs on typical day of use), and questions about their involvement in crime.

1.3.4 Analysis

1.3.4.1 Process

Outcome variables in relation to the speed of assessment and commencement of treatment were calculated using the dates obtained for referral, assessment and start of treatment. Rates of attrition at pre- and post-assessment, and in the 30 and 90-day periods after the start of treatment, were calculated for each service. We also collected and analysed demographic and casemix data in relation to the cohort of clients who were referred to each service, assessed by each service and who subsequently started treatment. We assessed whether there was any differential rates of attrition by demographic or casemix variables. During the 90-day treatment period of the crack outcome study population, service activity data was compiled for each case. This enabled us to assess the frequency, duration and nature of casework with this population.

1.3.4.2 Outcome

The study design involved the collection of self-reported outcome data from the clients through the administration of self-completion questionnaires. However, a number of factors undermined the successful implementation of this element of the proposal:

- The number of clients meeting the criteria of crack use and treatment at Tier 3 was unexpectedly low (see chapter two)
- Levels of retention in treatment for the proposed follow-up period were low
- Without the resources to undertake community follow-up of clients who dropped out of treatment, the pool of cases in which we could potentially obtain matched baseline and follow-up data was small. Hence, the response rate to the survey among this small pool of potential cases was low.

For these reasons we have not been able to perform the proposed outcome analysis using self-reported data. However, mindful of the potential problems of obtaining a high level of response from this client group, we implemented a parallel data collection exercise, which involved the collection of key informant data (i.e. from the client's keyworker) in relation to the main crack use measures described above. We also collected data on an important secondary outcome measure – involvement in crime. The outcome analysis (presented in chapter four) has been undertaken using this data.

The primary outcome analysis involved a comparison of baseline (i.e. pre-treatment) measures obtained at first point of contact, with outcome measures obtained at the 30 and 90 days follow-ups.

1.4 Tier 4 process and outcome evaluation

The evaluation of the Tier 4 service involved a modified version of the procedures described in relation to the Tier 3 services. The service was asked to record data prospectively about all clients referred within a 26-week recruitment period. In common with the data collection methods employed at the Tier 3 services, client-based data was collected in two ways:

Firstly, we asked keyworkers to record information about each referred client using a version of the TMQ modified to reflect the briefer, time-limited treatment episode at this service

Secondly, we asked clients who were admitted to complete two questionnaires. Given that the planned duration of admission to the service was three weeks we proposed only to collect data from clients at two points: baseline (admission) and discharge.

- We did not collect detailed data about keywork contacts at the Tier 4 service

- The pre-defined, primary outcomes for this study comprise a battery of measures of crack use that provide both qualitative and quantitative measures of consumption. Specifically we proposed to measure:
  - Whether a client had used crack in the 30 days preceding the admission, and whether they had used crack during the admission. (Community follow-up was not possible due to the limited resources of the study. The service also had limited opportunity to follow up clients and shortly after the recruitment period ended, the service was closed.)
  - The total number of days that the client had used crack in the 30 days preceding the admission, and during the admission. Given that the duration of admission was variable and often less than 30 days, both of the above measures were expressed as a proportion of the total number of days in the assessment period during which crack was consumed. Measures of consumption during the admission were obtained immediately prior to discharge

Clients were also asked a series of questions to clarify what they had learnt about the physical, psychological and social impact of crack.

1.5 Economic evaluation

Our economic evaluation examined the cost consequences for each of the four Tier 3 services (London, Birmingham, Manchester #1 and Manchester #2) and provided an analysis of unit cost per client for each service during the financial year 2004/05. We established the direct cost of each service and within each service estimated the cost of Tier 3 services separately where applicable (i.e. in the two Manchester services that also provided Tier 2 interventions). Due to limited resources and scope of the evaluation, we were not able to undertake a cost effectiveness study. Also, the economic evaluation wasn't extended to the Tier 4 service, which was in the process of closing at the time of data collection.

1.5.1 Cost data obtained

The following direct costs were obtained from each service: the capital overheads (buildings, furniture and fittings, office equipment); indirect overheads; management costs; the costs of consumables (travel, medical equipment, syringes and needles, condoms, stationery), and staffing costs (disaggregated cost data for administration staff, clinical staff and drugs workers). This data was obtained through a mixture of interviews with service managers and financial officers of the relevant NHS trusts or non-statutory agency.

1.5.2 Analysis

We completed two separate analyses to establish the unit cost per client at each service. These analyses calculated unit costs in relation to:

- The total number of clients who attended for assessment at each service in a twelve-month period
- The total number of clients treated subsequent to assessment by services in a twelve-month period.

These separate analyses reflected the different practices of the four Tier 3 teams. At the London service, assessment was undertaken as a discrete activity, independent of the initiation of treatment. Here, assessments were completed within a median of ten days before the client attended for treatment on the service's structured day programme. The other three services did not operate such a clear distinction between assessment and treatment, and in most cases treatment was initiated in the context of assessment sessions. It was recognised that many clients received brief interventions such as counselling, information and advice, drugs education and harm minimisation in the context of their assessment sessions. Even though a proportion of these clients did not attend any further treatment sessions, it would be inappropriate to consider them as having

not received any treatment in the way that clients who failed to take up a place on the structured day programme of the London service could.

Therefore, the calculation of unit cost based on the size of the assessed population was completed with respect to the Birmingham service and both Manchester services. The calculation of unit cost based on the size of the population treated subsequent to assessment was completed for all four services.

For each analysis, the number of clients assessed and treated over the financial period 2004/5 was calculated from the mean number of clients per month assessed and starting treatment during the evaluation study recruitment period. These monthly mean figures were multiplied by 12 to achieve an estimated annual figure. Unit costs were calculated by dividing the sum of the costs for the financial year 2004/05 (capital overheads, indirect overheads, management costs and consumables, and staffing costs) by each of these annual totals of clients.

Where services provided both Tier 2 and Tier 3 services (i.e. Manchester #1 and Manchester #2), separate unit costs per client for each Tier 2 and 3 service were calculated. This was achieved by allocating half the capital overheads, indirect overheads, management costs and the costs of consumables for each service between Tier 2 and Tier 3. Staff costs were allocated between Tier 2 and Tier 3 as follows:

Manchester # 1

- The cost of the service manager with no caseload was split equally between the two tiers
- The cost of the service administrator was equally split between the two tiers
- The cost of four drugs workers was allocated to Tier 3, while the cost of one drugs worker was allocated to Tier 2. (This equated with the extent to which the Tier 2 drop-in was supervised by drugs workers in addition to volunteers.)

Manchester # 2

- The cost of the service manager with caseload was allocated to Tier 3
- The cost of a 0.6 weighted whole time equivalent (WTE) drugs worker was allocated to Tier 2 and 1.8 WTE drugs worker was allocated to Tier 3. (This equated with the extent to which the Tier 2 drop-in was supervised by drugs workers in addition to volunteers.)

1.6 Qualitative investigation

1.6.1 Aims of the qualitative investigation

The qualitative arm of the NECTOS study aimed to:

- Provide a description of treatment services in the study sample, with reference to treatment aims, philosophies, funding, strategies for keyworking and group work, strategies for service improvement, management and resource issues, local (geographical and service) context; process and outcomes
- Identify factors perceived to promote or hinder engagement with and retention of clients in treatment, and factors perceived to be associated with the achievement of positive change in the drug use and lifestyles of service users.

1.6.2 Qualitative method

The qualitative investigation drew on the perspectives of staff (keyworkers and group facilitators), managers and clients. Staff interviews were conducted during two time periods: late summer 2003 (in order to inform the collection of quantitative data) and in Autumn 2004 (towards the end of the quantitative data collection period). Visits to the project sites (where all but three client interviews took place) were opportunities to observe drop-in (Tier 2) activities hosted by the projects.

It had been intended that a purposive interview sample of service clients would be identified from among those clients who graduated to Tier 3 services and consented to take part in the self-report component of the NECTOS quantitative evaluation. However, only a minority of clients who were in treatment at 30 days participated in the outcome study and approximately half of these had left the service by the end of 90 days. This high rate of attrition, combined with uncertainty about future contact with services and the distance between the research team and three of the services, made it difficult to access client interviewees that fitted our original criteria.

The NECTOS researcher therefore relied upon service staff to nominate candidates and arrange interviews. This is a potential source of bias. However, interviews conducted in the London service were with people who happened to attend the day programme on the days the researcher was present and at Manchester #1, the client interviews were arranged on the spot with clients who happened to be in attendance. In the Manchester #2 service, efforts made to pre-arrange interviews failed in several cases (e.g. one client was arrested, another found a job) and replacements were found fortuitously from clients who happened to drop in. The interview sample was entirely nominated by staff at the Birmingham service.

Interviews with staff and service managers were arranged prior to visits, but again did not necessarily proceed according to plan. In three services, all the keyworkers were interviewed at least once, while in the other two, a larger staff team did not permit this. In total 43 interviews were completed (see table 2.1).

Table 2.1 ***Interviews carried out for the qualitative analysis***

Type of Interviewee	London	Manchester #1	Manchester #2	Birmingham	Tier 4 London	**Total**
Managers	2	2	3	2	2	**11**
Staff	3	3	2	7		**15**
Clients	5	3	5	4		**17**
Total	10	8	10	13	2	**43 ***

* 36 people were interviewed, 7 (4 managers, 3 staff) more than once over the course of the study period.

1.6.3 Data collection and analysis

The interviews were semi-structured and undertaken in accordance with a topic guide, devised in consultation with the NECTOS team members, reflecting the aims of the research. Core topics included respondents' views on ease of access for all crack users to the service, engagement and retention, the content of treatment, and the outcomes of treatment (in particular how clients were motivated to work toward them). With the consent of interviewees (given in all except three interviews, two of which were with staff), interviews were tape recorded and transcribed. Anonymised transcripts were analysed using NVivo (a computer package facilitating the sorting and organisation of text-based material) and Excel packages.

An extended qualitative analysis was also undertaken in relation to issues of ethnicity and gender.

2 The services

2.1 Introduction

This chapter describes the services that were subject to evaluation. It is based on the findings of the qualitative investigation and in particular on the series of interviews held with managers and staff. Interviews with managers were conducted early in the evaluation in order to help inform the study design. We then repeated the manager interviews during the quantitative data collection period. At this point we also included interviews with staff and clients of the services.

2.2 The study population of services

Prior to this research being commissioned, the fundholders had identified a number of established, specialist crack services that would be subject to evaluation. Originally a group of ten services was identified, but by the time the project was fully commissioned this total had been reduced to eight.

Table 3.1 describes the key characteristics of these services. The eight services were varied in nature and included six Tier 3 day services, one Tier 4 residential unit and one prison outreach service. However, during the initial start-up period of the research, three of these services closed and it was therefore not possible to include them in the evaluation. The closure of these services left a core group of four Tier 3 services, which were subject to a common evaluation design, and one Tier 4 service, which required separate evaluation.

Sections 2.3–2.6 describe each of these services.

NB: Under London #1 'Generic drop-in on site' should be deleted and replaced with 'No'. The clients of the day programme did not make use of this service and there was no real working relationship despite its common location.

Tier 2/3 services should be described as Tier 3 for consistency with the report and amendments made to the Ex Summary

Table 3.1 Characteristics of the original sample of services subject to evaluation.

	TIER 2/3 - DAY SERVICES:						TIER 4 - RESIDENTIAL:	PRISON OUTREACH
	London #1	Manchester #1	Manchester #2	London #2	Birmingham	London #3		
CASEMIX: Inclusions	Primary crack cocaine users	Primary crack & cocaine users	Primary crack & cocaine users	THIS SERVICE CLOSED IN MAY 2004. EVALUATION THEREFORE NOT POSSIBLE	Primary crack & cocaine users	THIS SMALL SERVICE WAS SUSPENDED DUE TO LONG-TERM STAFF ABSENCE. AT THE SAME TIME THE OPENING OF A NEW LOCAL SERVICE REDUCED REFERRALS RATES	Primary crack cocaine users	THIS SMALL SERVICE CLOSED IN THE EARLY DAYS OF THE EVALUATION. THE SUB-CONTRACT (WITH CARAT SERVICE) WAS NOT RENEWED. EVALUATION THEREFORE NOT POSSIBLE
		Other stimulant users	Other poly-drug users if 'heavy' crack cocaine user		Other poly-drug users if 'heavy' crack cocaine user			
Exclusions	Primary opiate users	Primary opiate users	None, so long as client uses crack		None, so long as client uses crack		Active drug use not permitted. Must be drug-free while resident	
	> 18	> 18	No age restriction		> 18		> 18 (some flexibility)	
INTERVENTIONS Structured Day programme	Yes, core service (T3)	No, but under development	No	Yes, core service	No	No	Structure to residential unit	Yes
Duration	12 weeks	N/A	N/A	12 weeks	N/A	N/A	3 weeks +	1 week in six
Keywork / case management	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Assessment only + informal support
Drop-in	Generic drop-in on site	Yes, twice weekly	Yes, daily open access drop-in	No	No	No	N / A	Informal access to worker
Summary of intervention strategy	Care planning & keywork. Structured abstinence based day programme. Alternative therapies	Care planning & keywork, Day programme Group activities / drop-in Alternative therapies	Care planning & keywork, Drop-in Alternative therapies	Care planning & keywork. Structured day programme. Alternative therapies	Care planning & keywork Day programme Groups planned but not implemented Alternative therapies	Care planning & keywork Psychological therapies	Care planning & keywork Structured programme "Respite" & accommodation	Assessment. A proportion of the assessed have 1 week structured programme, then onward referral and follow up.

2.3 London

2.3.1 Description of the service

The core service delivered by the London service is a crack-specific Tier 3 day programme, supplemented by keyworking. The day programme has been running for nine years. Although the service shares a building with a Tier 2 generic advice, information and harm minimisation facility (offering drop-in access every weekday afternoon, and catering for users of all drugs), these services are not closely integrated. There are different entrances for the drop-in and crack programme clients and Tier 3 clients rarely used the drop-in.

2.3.2 Staffing

The project employs two full-time crack workers to run the programme, has a dedicated manager and attracts volunteers from different backgrounds. None of the staff have clinical qualifications. The project has a national reputation for expertise in crack and is able to offer substantive training to suitable applicants in crack-specific work.

2.3.3 Target population

The target clientele for the service are residents of any London borough, aged 18 or over, who identify themselves as crack users, who are experiencing problems in relation to crack use, or have been sentenced to community treatment through a Drug Treatment and Testing Order (DTTO) or community rehabilitation order. Most clients (with the exception of some referred for treatment by the courts) require an assessment by the drug and alcohol team care managers of their local borough before they can be admitted to the programme. Three London boroughs provide some block funding for places on the programme, but qualifying residents referred for these places must still undergo assessment by local authority care managers before their use of the places is agreed.

Those on a warrant, those who are homeless, and those unable (perhaps because of work commitments) to attend a day programme cannot be accepted. Occasionally, the project may take opiate users who have withdrawn down to a very low daily regimen of methadone; or, inadvertently, people who use crack and heroin simultaneously but deny addiction to heroin. Workers feel that this combination complicates the drive to abstinence and that crack and opiate users do not identify with each other, can be mutually antagonistic, and do not have the same needs.

The emphasis on group work, and on active participation in one's own treatment and the treatment of others, means that the service may not be suitable for those with severe mental health problems. However, people who are stabilised on medication will be considered.

2.3.4 Referral and assessment process

The project accepts self-referrals and receives referrals from a range of agencies. Once a referral is received, an assessment is arranged as early as possible. If the client attends the assessment, they are given leaflets about what the day programme delivers, and how to prepare for it. Information about the applicant's drug use will be recorded to ensure that the criteria are met and the client is briefed on how to apply for local authority funding if they are accepted by the project. Clients are also asked a number of self-perception questions, based around their reasons for self-referral and motivation for change. The client's details are discussed at a team meeting and a team decision is taken on whether the client is suitable, at which point they are notified by phone. It is then up to the client (unless they are on a DTTO) to follow the procedure in their borough of residence to acquire funding.

2.3.5 Treatment programme

The day programme runs daily, from 10.00am to 4.00pm. The service aims to cover the group work programme in 12 weeks – this is the expected length of stay. The project offers a rolling programme, so that clients can join the service at the start of any week: these arrangements are designed to maximise the use of the service, as vacancies that arise when people drop out or complete can be swiftly filled. The group in treatment may therefore change each week, and participants will bring different levels of knowledge and self-awareness to the group, depending on the length of time they have been in treatment. The group sessions are written down and conform to an agenda covering education about the effects of crack, relapse prevention, and rehabilitation. The full treatment programme comprises the following:

- Week one — Crack and cocaine awareness
- Weeks two and three — Lapse and relapse – management and retention

- Week four — Health
- Weeks five, six and seven — Social and life skills
- Week eight — Consequences of my drug use
- Weeks nine and ten — Offending and behaviour
- Week eleven — Support
- Week twelve — Where do I go from here?

The service is designed to promote abstinence. It is therefore possible for clients to achieve the stated treatment goal – of achieving and maintaining abstinence from crack – without staying on the programme for the entire twelve weeks. In order to sustain abstinence, the programme addresses the need to replace the highs of using crack. People are asked to give up most of their social contacts and habitual pursuits.

The philosophical aims of the project are to empower people to make positive changes in their lives and to reject crack use. Although relapse is used as a discussion aid, it will not be tolerated indefinitely if it is felt that the client is not striving to change. Workers say that the programme involves a process in which the individual is encouraged to get in touch with their underlying motives for crack use.

Group work is complemented by keyworking sessions. Some clients find it difficult, at least initially, to speak about emotions in a group context, and keyworking sessions can feel safer. Workers and managers say that a high percentage of clients reveal experience of ongoing abuse or trauma in their family lives that, as drug workers, they feel unqualified to deal with. In reality, the programme is too short for counselling to proceed much beyond the identification of need, but keyworkers do attempt to prepare and refer the client to other counselling services.

The project has recently entered into a partnership with a small voluntary sector counselling service for substance users and family and friends, and counsellors attend group sessions to talk about what they do. This partnership is welcome, but the therapy service is clearly too limited to cope with the high demand for counselling from these (and other client) services.

The London service does not case manage clients, but aims to empower them to make positive changes and to address their problems. Role-playing is also used in the group to identify different ways of perceiving and dealing with inter-personal relations and practical situations.

The day programme accommodates DTTO clients alongside self-referrals. Although they are assessed for suitability, it can be difficult to predict who will make good use of the programme and who will disrupt the treatment of others. The service has accepted the need to apply drugs testing according to national standards, although they have always expected clients to own up to use of drugs. With the project aiming to achieve real change in actual crack use, project workers found it frustrating that programme attendance was the sole measure of compliance for clients on DTTOs. However, keyworkers co-managing DTTO clients may advocate for individual clients with probation officers if they feel the client is making good use of the service. Conversely, they may discharge them from the programme if they do not respect boundaries.

There is acceptance among staff that this programme cannot meet the needs of all crack users. For example, some crack users have been using for 20 years: a three-month programme is unlikely to render them abstinent, though it may be a gateway to some other opportunity. The ending of the programme can be a difficult hurdle for the client. Recently, an aftercare group has been set up, to run two evenings every week, for clients seeking to stay abstinent after treatment. (It is not restricted to ex-crack users.) The future of this service is not yet clear, although it has clearly been initiated with a view to filling in something of the gap left for users who have completed the intensive 12 weeks.

2.4 Manchester #1

2.4.1 Description of the service

This service is situated in a refurbished industrial building, about ten minutes' walk from the city centre. The building is the most spacious of the Tier 3 services in our sample. The ground floor has a reception area, an open-plan kitchen and café for clients, adjacent workshop with computer and internet stations, and several therapy and interview rooms. There is a spare room, which has been earmarked for possible use as a crèche. Staff accommodation, including a large open-plan shared office, staff kitchen and meeting room, is on the upper floor. The service has been taking clients since October 2002 and was still building its capacity, clientele and staffing at the start of the NECTOS evaluation.

2.4.2 Staffing

The team of eleven has five case workers and a therapist co-ordinator who also provides counselling, a full-time group worker (since summer 2004), administrator and receptionist. The service utilises up to 20 volunteers (some of whom are ex-service users), supervised by a part-time volunteer co-ordinator. The team has access to a consultant psychiatrist who attends team meetings once every two months, and a registrar who holds a fortnightly clinic: clients can be booked in, but more commonly team members present individual cases for supervision. The service runs a women-only afternoon, which women can use simply as a drop-in (with refreshments provided), or to access Tier 2 and Tier 3 services.

2.4.3 Target population

The service caters for users of all stimulant drugs, so they would see some amphetamine users, as well as users of crack (estimated at around 40 per cent of caseloads), powder cocaine and other polydrug users. Beyond stimulant use, the major criterion for the service is residence in Manchester (a Manchester postcode, or a GP with such). Self-referral and agency referrals are accepted.

A worker from the Manchester #1 service gives up one evening a week to travel on the Manchester Action on Street Health (MASH) outreach van for sex workers, delivering acupuncture and information. This is a potential source of referrals.

2.4.4 Referral and assessment process

There is a standard referral form (kept by agencies). If potential clients phone in, this can be completed on the phone. Ideally, contact details are taken. Confidentiality policies are raised with clients at this point. GPs are not notified of the referral if the client objects, unless there are issues about prescribed medication. If the client self-refers, an arrangement is made for them to attend the next drop-in (on a Tuesday or Friday). In theory, this means that they need only ever wait three days to be seen.

At the drop-in, they will have a triage assessment of at least 20 minutes and be given details about the service. This triage assessment is the basis of initial allocation to Tier 2 or Tier 3. Depending on priority and staff availability, the full assessment could be taken at this point, but is usually completed when clients enter Tier 3 treatment.

2.4.5 Treatment programme

The service provides both Tier 2 and Tier 3 services. Tier 2 services (attending the drop-in, accessing the internet, making snacks, acupuncture) are part of the treatment process and are not seen as an alternative to Tier 3. Clients, or potential clients, are able to attend the service without an appointment on Tuesdays and Fridays, while Wednesday afternoon is reserved for women only to use the drop-in space. Keyworking staff attend and manage the drop-ins. Staff feel they can deliver useful interventions and referrals to chaotic users who might drop into Tier 2, but might not yet be able to tolerate the intensity and discipline of Tier 3 keyworking.

The basic Tier 3 treatments are one-to-one case work with a keyworker, cognitive behavioural therapy (CBT) and counselling. Workers highlight motivational interviewing and empowerment, harm reduction and relapse prevention as the core components of case work. Counselling may have a wider remit that is not explicitly drug-focused (although it will probably impact on drug use).

A group work programme is also being developed. Initially it was activity-based – some of the groups are explicitly regarded as Tier 2 interventions – to engage and relax clients: computer skills (delivered by sessional staff of the local college), cookery, gardening, photography and art. The service has one weekly session, free to clients, at a local council gym, where clients can use the pool and the sauna.

Counselling sessions independent of keywork are now available. There is a waiting list, but this may confirm the value of the service to those awaiting it.

Most workers prefer the term "case work" to that of "case management'", as most do not think they deliver or coordinate the delivery of all their clients' needs. In common with the rest of our sample of drug workers, most Manchester #1 workers try to limit the amount of work they do which is not drug-focused, but would try to identify an alternative agency to help with particular problems.

2.5 Manchester #2

2.5.1 Description of the service

This service was set up in 1996 with six years' SRB funding as a stimulant service for a deprived Greater Manchester borough. The service was initiated in partnership with potential service users, who helped to research local need. The service is now funded (costing around £100,000 a year) by mainstream pooled treatment budgets, and is part of the local mental health trust. Additional funding has been won to support a stimulant outreach worker in a neighbouring borough with an ethnically diverse population. At the time of its inception, there was no other stimulant service in Manchester itself, and the service accepted clients from throughout the city. With the commissioning of the Manchester #1 service (see above), the service has withdrawn to its current borough wide catchment area.

The service is situated on a main road, well served by public transport, and occupies two floors of former retail premises. Callers enter from the street into a large room with soft lighting and comfortable seating. A volunteer receptionist manages the area, which is where the drop-in clients sit. There are (free) tea and coffee making facilities. The adjoining room is a treatment area, suitable for small groups, acupuncture and black box treatment. There is some very small staff office accommodation on the lower ground floor, and this is where Tier 3 clients are usually keyworked.

2.5.2 Staffing

During the NECTOS study period, the service employed three keyworkers (including the manager), plus an outreach worker. One of the staff holds a CQSW (a full social work qualification) and one has comprehensive training in CBT. The service also employs volunteers (six to twelve at any one time, some of whom may be ex-users), who run the reception (including the monitoring of clients using the Tier 2 service). Some volunteers are trained to deliver Tier 2 treatments.

Volunteers who have used drug services themselves are important to the project, not least because they are visible proof that change and a drug-free life is possible:

> *"A lot of people come in without that belief – it is one of the most important things we can give people."*

However, it is unusual for people who have been clients of the service itself to be accepted as volunteers:

"We want to keep this as their support space and the boundaries can get very messy."

2.5.3 Target population

The service is primarily for stimulant users and only stimulant users can access Tier 3 keyworking. There is some flexibility in the provision of Tier 2 services. These are effectively walk-in services and it is accepted that some non-stimulant users will attend.

2.5.4 Referral and assessment process

The service accepts referral from a variety of sources. Although there are referral forms, neither agencies nor clients have to use them, as the philosophy of the service is to reduce barriers that might stop people engaging. Where it is known or stated that the client has a significant problem, they will be offered a first appointment. This may be the opportunity for a formal, recorded assessment, but the main aim is to get the client to return.

As with Manchester #1, low threshold access through Tier 2 (in particular the drop-in) is a major source of referral. Experienced volunteers run the drop-in and the Tier 2 treatments, implementing an informal triage system that steers clients who appear in need of more concrete and immediate help toward an assessment.

There is no waiting list for assessment, and every effort is made by keyworkers to offer assessment at the client's convenience and as soon as possible – if possible, on the spot. The target is to offer a one-to-one appointment or assessment within three days of referral. Allocation to keyworkers is usually done on the basis of worker availability, unless:

- The client has a previous therapeutic relationship with a particular worker
- The client is female and requests a female worker
- There are indications that a formal CBT (16-week) intervention would be appropriate.

Keyworkers hold about 20 active cases each. However, the treatment status of clients can be difficult to assess, as the service is reluctant to discharge clients unless their circumstances are known, as this could discourage them from seeking help in the future. Clients may disappear, for example, if they are arrested, but may come back to the service for support after release.

2.5.5 Treatment programme

At the start of the evaluation, the Tier 2 drop-in sessions were running three afternoons a week, with acupuncture clinics every day. The drop-in sessions are sometimes adjusted to five days a week when there is demand, as the service can call on volunteers to run the drop-in. Peer-led groups specifically for women, and Friday groups for people trying to stay abstinent, are being tested. The Tier 2 services may also be used by ex-polydrug and ex-opiate users who want a safe place in which to be abstinent.

The Tier 3 service is one-to-one keyworking, with elements of education, motivational interviewing, CBT and person-centred counselling. Workers incorporate a variety of techniques, including visualisation, and anonymised case examples from past clients seen in the service. Initially, keywork sessions can be very intense and up to five times a week. The philosophy of the service is to work with goals that are meaningful and achievable to clients, but this invariably entails working toward abstinence.

Keyworking is not standardised, but is negotiated, incremental and client-led. Workers do not see themselves as case managing clients, as the focus of work is to reduce crack (and other substance) misuse. It is recognised that practical problems impinge on a client's ability to make positive change and that demoralisation because of practical issues can be an easy excuse or reason for using drugs. Practical problem solving does take up a considerable amount of keyworking time.

There is nevertheless recognition that taking on too much can encourage dependency and disempower the client. Enabling the client to carry out long-avoided tasks (even cleaning up the home) impacts on their ability to complete all the future jobs they may dread, while doing it for them only has a short-term impact.

This service does not have the staff capacity to set up formal liaison arrangements with other agencies (in the way that Manchester #1 can and does). However, client-centred work can involve significant advocacy on behalf of clients. Examples are parents fighting for access to or custody of children, and people awaiting court appearances who need reports.

Like our other services, Manchester #2 has also identified a need for clients to access ongoing, person-centred counselling around issues that are not directly linked to drug use. Manchester #2 has an arrangement with a co-ordinator and trainee counsellors from a local college to offer a separate on-site service to clients. Relatives and carers can also access this service (and are encouraged to do so because it is confidential and separate from the stimulant service).

2.6 Birmingham

2.6.1 Description of the service

The Birmingham service operates from anonymous premises behind and above the shops of a small, partially vacant shopping precinct. Its location is a ten-minute bus ride from the city centre. The premises are small with narrow interview rooms that are informally furnished as sitting rooms. There is a larger downstairs room with space for team or group meetings. The service covers the entire catchment area of three mental health trusts (all of Birmingham and Solihull). It is funded through the drug action team (DAT), administered by one of the mental health trusts, and in 2004/05 had a budget of £169,000 per annum.

2.6.2 Staffing

At the start of the study period, the service employed four female keyworkers, a (male) manager who also carried a caseload, and an administrator. However, mid-way through the study period, the manager left his post. Since that time one of the keyworkers has been acting as team manager.

2.6.3 Target population

The service is for people over 18 who use crack or cocaine hydrochloride (powder), whether or not they are using other drugs. It also accepts polydrug users who identify cocaine as a significant aspect of their overall drug use. To be eligible for the service, clients must aspire to reduce or stop using crack and cocaine. Clients must be resident within the catchment area (i.e. have a Birmingham postcode or a GP who has).

2.6.4 Referral and assessment process

Referrals fluctuate, but can range between 12 and 20 per month. This is a higher demand than staff can accommodate, so clients typically have to be put on a waiting list for a full assessment (typically around eight to ten clients at any one time during the study period). However, if clients contact the service directly they are given immediate triage screening by the person answering the phone to ascertain suitability for the service, and to assess whether there are any issues (e.g. pregnancy) that would give the client priority. As well as taking background information on the client and offering information about the service, workers try to give the clients a flavour of treatment at this initial contact.

While on the waiting list, clients can also access a brief crisis appointment and written relapse prevention material. When a vacancy arises, the client at the top of the waiting list is ordinarily allocated to that vacancy and is contacted to attend a first session, at which point a fuller assessment will be taken.

2.6.5 Treatment programme

The service provides one-to-one Tier 3 keywork. At the start of the NECTOS study period a more structured day programme with groups was under discussion, but this has not yet been implemented. There is no drop-in facility at the service, although clients can obtain auricular acupuncture and herbal teas to promote detoxification and relaxation outside of formal keywork sessions (and sometimes when awaiting a keywork vacancy).

The expectation is that clients will be keyworked for three to six months, with contacts (by phone and interview) more frequent in the early stages. Clients referred by mental health services are likely to be in treatment for longer periods. There is no formal cut-off for treatment, although the managers and workers feel that the service is increasingly expected to see clients through services within a defined target time. Staff will make efforts to contact clients who do not attend up to two appointments. The client will be discharged if they fail to attend after these attempts at contact, but will be invited to re-apply in the future, as there is an expectation that people's needs may fluctuate over time.

Drugs may not be the focus of early keyworking sessions: early contacts are client-led and may take the form of offloading distress or addressing practical or emotional problems. If possible, these early sessions should have some educational content, as clients may not realise how closely their symptoms and difficulties relate to the chemical consequences of drug use. A common theme highlighted by workers during keywork is the examination of the link between actions and their consequences, where actions include relapse, drug use, offending behaviour and damage to relationships with significant others.

As a general rule, clients need to agree to a drug-related treatment target in order to qualify for the service. This is most commonly a reduction in use, either in terms of the amount used, days used on, or confining use to particular contexts, all indicating control over use.

Staff of this team, well embedded in three mental health trusts, emphasised joint working with other agencies, requiring liaison, communication and the coordination of care plans. This can be very time-consuming, since a single event may have to be shared with two or three other professionals:

> *"If an external organisation refers, as well as writing to the client we have to send a letter to the referrer as well, likewise if we discharge the client, or if the client doesn't turn up."*

Workers may also find it more expeditious to take on a piece of work that is not specifically drug-related themselves, rather than refer to other services. Staff said that the outcome of crack treatment can at times depend on the availability of another service to refer to, and on the competence or capacity of the services with which it works (e.g. child protection, mental health, counselling services) to support the care plan.

3 Baseline characteristics of clients

3.1 Number and distribution of subjects

3.1.1 Process evaluation: size of referred, assessed and treated study populations

The study was implemented in four specialist crack treatment services (see chapter two). Services were asked to record data prospectively about all clients referred to these services within a 17 to 21 week recruitment period using a TMQ. Across the four services, 477 referrals were received. The weekly mean rate of referral was similar at three services (range 4.1–4.8 a week), but markedly higher at the larger Manchester #1 service, where referrals are accepted from clients using a wide range of stimulant drugs.

TMQs were completed in a total of 447 cases (93.7%). This population of 447 cases represents the referred study population. Table 3.1 shows that services carried out clinical assessments in 271 of 447 cases (60.6%, the assessed population), while 221 clients started treatment (49.4%, the treated population).

Table 4.1 ***Process Evaluation Study Population: Numbers of cases in the Referred, Assessed and Treated study populations.***

	London	Manchester #1	Manchester #2	Birmingham	**TOTAL**
Duration of recruitment (weeks)	21	19	21	17	
N of referrals received (mean n per week)	86 (4.1)	216 (11.4)	94 (4.5)	81 (4.8)	**477**
Referred Study Population N of completed *Treatment Monitoring Questionnaires* (%)	84 (97.7)	194 (89.8)	91 (96.8)	78 (96.3)	**447 (93.7)**
Assessed Population N of clients completing assessment (% of *referred population*)	46 (54.8)	118 (60.8)	64 (70.3)	43 (55.1)	**271 (60.6)**
Treated Population N of clients starting treatment * (% of *referred population*)	19 (22.6)	110 (56.7)	60 (65.9)	32 (41.0)	**221 (49.4)**

** Defined as attendance at the service to receive either Tier 2 or Tier 3 interventions subsequent to, or contemporaneous to (but not preceding) formal triage or full assessment.*

3.1.2 Response rates to the client survey (crack outcome study population)

Table 4.1 shows that there were 99 cases among the treated population that met criteria for inclusion in the crack outcome study (i.e. crack user treated at Tier 3). Table 4.2 shows the response rates to the client survey questionnaires administered to this population:

- At baseline, 38 clients completed questionnaires (38.8% of those starting treatment)
- At 30 days, 19 out of 76 clients in treatment completed questionnaires (25%)
- At 90 days, 7 out of 42 clients in treatment completed questionnaires (16.7%).

The implications for the outcome analysis of these low response rates are discussed in chapter five.

Table 4.2 ***Crack Outcome Study Population: Number of cases in treatment at baseline, 30 days and 90 days and response rates to client survey questionnaires by team.***

	London	Manchester #1	Manchester #2	Birmingham	**TOTAL**
Crack Outcome Study Population - N of clients starting Tier 3 treatment for problems relating to crack cocaine use (% of *Treated Population*)	19 (100)	29 (26.4)	27 (45)	24 (75)	**99 (44.7)**
N of Baseline Questionnaires completed (%)	9 (47.4)	3 (10.3)	18 (66.7)	8 (33.3)	**38 (38.4)**
N of clients in treatment at 30 days	16	21	20	19	**76**
N of 30-day Questionnaires completed (%)	5 (31.3)	3 (14.3)	8 (40)	3 (15.8)	**19 (25)**
N of clients in treatment at 90 days	9	11	12	10	**42**
N of 90-day Questionnaires completed (%)	1 (11.1)	0 (0)	5 (41.7)	1 (10)	**7 (16.7)**

3.2 The referred population's baseline characteristics

3.2.1 Demographic profile

Tables 4.3 and 4.4 present demographic findings in relation to the referred study population. The referred populations at the four services did not differ significantly in terms of either the proportions of male and female clients, the median age of clients or the distribution of male or female clients by age group. However, there was significant variation in the ethnic mix of the referred populations at the four services ($x2= 127.1$, $df=21$, $p<0.001$).

Table 4.3 ***Referred Study Population: Age and gender profile of referred clients by team.***

	London (n=84) N	%	Manchester #1 (n=194) N	%	Manchester #2 (n=91) N	%	Birmingham (n=78) N	%	*Test Statistic Chi Square:*	**Totals (n=447) N**	**%**
GENDER:											
Male	66	78.6%	146	75.3%	65	71.4%	53	67.9%	*x^2=2.9, df=3,*	**330**	**73.8**
Female	18	21.4%	48	24.7%	26	28.6%	25	32.1%	*p=0.415*	**117**	**26.2**
AGE by GENDER											
MALES: *									*x^2= 1.5, df=3,*		
Median Age (range)	32	(18 – 54)	33	(19 – 63)	33	(18 – 56)	33	(19 – 47)	*p=0.7*	**33**	**(18-63)**
Age Groups: 18 - 20	2	3.2	1	.7	3	6.1	2	3.8		**8**	**2.6**
21 – 25	5	8.1	17	11.7	7	14.3	7	13.5		**36**	**11.7**
26 – 30	12	19.4	28	19.3	6	12.2	11	21.2		**57**	**18.5**
31 - 35	18	29.0	38	26.2	18	36.7	9	17.3		**83**	**26.9**
36 - 40	11	17.7	33	22.8	9	18.4	13	25.0		**66**	**21.4**
41- 45	10	16.1	14	9.7	3	6.1	6	11.5	*x^2= 15.6, df=18,*	**33**	**10.7**
46 and over	4	6.5	14	9.7	3	6.1	4	7.7	*p=0.6*	**25**	**8.1**
Missing	*4*	.	*1*	.	*16*	.	*1*	.		*22*	.
FEMALES **									*x^2= 4.7, df=3,*		
Median Age (range)	33	(21-46)	31	(20-47)	34	(21-64)	30	(17-45)	*p=0.2*	**31**	**(17-64)**
Age Groups: 18 - 20	0	.0	0	.0	0	.0	3	12.0		**3**	**2.9**
21 – 25	1	5.6	9	18.8	1	5.9	5	20.0		**16**	**14.8**
26 – 30	4	22.2	13	27.1	5	29.4	4	16.0		**26**	**24.1**
31 - 35	8	44.4	15	31.3	3	17.6	6	24.0		**32**	**29.6**
36 - 40	4	22.2	7	14.6	4	23.5	5	20.0		**20**	**18.5**
41- 45	0	.0	2	4.2	2	11.8	1	4.0	*x^2= 21.4, df=18,*	**5**	**4.6**
46 and over	1	5.6	2	4.2	2	11.8	1	4.0	*p=0.3*	**6**	**5.6**
Missing	*0*	.	*0*	.	*9*	.	*0*	.		*9*	.

Table 4.4 ***Referred Study Population: Ethnicity of clients by team.***

	London (n=84) N	%	Manchester #1 (n=194) N	%	Manchester #2 (n=91) N	%	Birmingham (n=78) N	%	*Test Statistic Chi Square:*	**Totals (n=447) N**	**%**
White British	30	38.5	156	81.7	58	85.3	38	52.4		**282**	**68.6**
White other	3	3.8	9	4.7	2	2.9	0	.0		**14**	**3.4**
Black British / Caribbean	20	25.6	6	3.1	6	8.8	16	21.6		**48**	**11.7**
Black British / African	17	21.8	0	.0	0	.0	3	4.1		**20**	**4.9**
Black other	2	2.6	1	.5	0	.0	2	2.7		**5**	**1.2**
Asian/Asian British *	2	2.6	4	2.1	2	2.9	8	10.8		**16**	**3.9**
Mixed White & Black Carib'	3	3.8	15	7.9	0	.0	5	6.8	*x^2= 127.1, df=21,*	**23**	**5.6**
Mixed - White & Asian	1	1.3	0	.0	0	.0	2	2.7	*p<0.001*	**3**	**0.7**
Missing	*6*	.	*3*	.	*23*	.	*3*	.		*35*	.

** Disaggregated data was obtained about Indian, Pakistani, Bangladeshi and other Asian populations but merged due to the small numbers*

Table 4.5 ***Referred Study Population: Distribution of referred clients by referral source.***

	London (n=84) N	%	Manchester #1 (n=194) N	%	Manchester #2 (n=91) N	%	Birmingham (n=78) N	%	*Test Statistic Chi Square:*	**Totals (n=447) N**	**%**
Client self-referral	41	48.8	48	25.5	47	52.2	15	19.2		**151**	**34.3**
Family / friend / carer	4	4.8	1	.5	8	8.9	3	3.9		**16**	**3.6**
Drug service	9	10.7	50	26.6	12	13.3	25	32.5		**96**	**21.9**
Mental Health Team	1	1.2	3	1.6	5	5.6	2	2.6		**11**	**2.5**
LA Social / Children services	7	8.3	6	3.2	0	.0	2	2.6		**15**	**3.4**
Housing	5	6.0	4	2.1	3	3.3	2	2.6		**14**	**3.2**
GP	0	.0	12	6.4	5	5.6	4	5.2	*x^2= 98.9, df=24,*	**21**	**4.8**
Criminal Justice	17	20.2	64	34.0	10	11.1	25	32.5	*p<0.001*	**116**	**26.4**
Missing	*0*	.	*6*	.	*1*	.	*0*	.		*7*	.
Referrals by CJS agency:											
Arrest referral worker	*3*	*3.6*	*7*	*3.7*	*7*	*7.8*	*11*	*14.3*		*28*	*6.4*
CARAT worker	*8*	*9.5*	*4*	*2.1*	*1*	*1.1*	*10*	*13.0*		*23*	*5.2*
Prison in-reach	*0*	*.0*	*19*	*10.1*	*0*	*.0*	*0*	*.0*		*19*	*4.3*
Probation	*6*	*7.1*	*9*	*4.8*	*1*	*1.1*	*1*	*1.3*		*17*	*3.9*
Court liaison / worker	*0*	*.0*	*12*	*6.4*	*1*	*1.1*	*0*	*.0*		*13*	*3.0*
Other CJ agency	*0*	*.0*	*13*	*6.9*	*0*	*.0*	*3*	*3.9*		*16*	*3.6*

3.2.2 Referral source

The services received referrals from three main sources:

- Self-referrals represented just over a third of referrals (34.3%, n=151)
- Drug services referred a fifth (21.9%, n=96)

- Criminal justice agencies referred a quarter (26.4%, n=116). (Criminal justice agencies included arrest referral workers, CARAT teams, prison in-reach, probation and court liaison workers (see table 4.5)).

The proportion of referrals made by these agencies to the four services differed significantly (see table 4.5).

3.3 The assessed population's baseline characteristics

3.3.1 Age, gender, ethnicity and referral source

A significant proportion of the referred population did not attend assessment (39.4%, n=176). We compared the demographic profile of the referred populations who underwent an assessment with those who were not assessed. This analysis showed that there was no marked or statistically significant difference in the age, sex and ethnicity profile of the assessed and non-assessed populations.

However, there were significant differences in the proportions of clients from different referral sources that underwent assessment (x2= 33.9, df=7, p<0.001). Table 4.6 shows that over 70 per cent of clients referred by mental health services, local authority social services or child services, and those who were self-referrals, underwent assessment. In contrast, less than 50 per cent of clients referred by other drug services, GPs and criminal justice agencies, attended assessment. Nearly, two-thirds of the referred population who did not attend for assessment (n =110, 62.5%) were referred by drug services or criminal justice agencies.

Table 4.6 Referred Study Population: Distribution of referred clients by referral source.

	Not Assessed (n=176)		Assessed (n=271)		*Test Statistic*	Totals (n=447)	
	N	%	N	%	*Chi Square:*	N	%
Client self-referral	36	23.8	115	76.2		**151**	**34.3**
Family / friend / carer	6	37.5	10	62.5		**16**	**3.6**
Drug service	51	53.1	45	46.9		**96**	**21.9**
Mental Health Team	2	18.2	9	81.8		**11**	**2.5**
LA Social / Children services	4	26.6	11	73.3		**15**	**3.4**
Housing	5	35.7	9	64.3		**14**	**3.2**
GP	11	52.4	10	47.6	$x^2 = 33.9, df=7,$	**21**	**4.8**
Criminal Justice	59	50.9	57	49.1	$p<0.001$	**116**	**26.4**
Missing	*2*	.	*5*	.		*7*	.

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Drug service	51	53.1	45	46.9		**96**	**21.9**
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GP	11	52.4	10	47.6	$x^2 = 33.9, df=7,$	**21**	**4.8**
Criminal Justice	59	50.9	57	49.1	$p<0.001$	**116**	**26.4**
Missing	*2*	.	*5*	.		*7*	.

3.3.2 Client's living situation, legal status and contact with services

A quarter of the assessed population lived alone (n=59, 25.4%), with slightly smaller proportions living with spouses or partners (n=53, 22.8%), or with parents or relations (n=53, 22.8%). There were few clients who were street homeless (n=4, 1.7%), but around one in eight were in temporary housing or hostel accommodation (n=29, 12.5%).

Less than one in five clients was employed at the time of referral (See table 4.7).

Table 4.7 *Assessed Study Population: Living situation, Employment and Legal Status at Baseline.*

	London (n=46) N	%	Manchester #1 (n=118) N	%	Manchester #2 (n=64) N	%	Birmingham (n=43) N	%	*Test Statistic Chi Square:*	**Totals (n=271) N**	**%**
Client's Living Situation											
Lives alone	13	31.0	22	22.9	17	31.5	7	17.5		**59**	**25.4**
Living with partner / married	9	21.4	19	19.8	15	27.8	10	25.0		**53**	**22.8**
Living with parents / relations	10	23.8	18	18.8	11	20.4	14	35.0		**53**	**22.8**
Living with friends	1	2.4	7	7.3	6	11.1	1	2.5		**15**	**6.5**
In temporary housing / hostel	5	11.9	16	16.7	4	7.4	4	10.0		**29**	**12.5**
Street Homeless	0	.	4	4.2	0	.	0	.		**4**	**1.7**
Prison	3	7.1	2	2.1	0	.	2	5.0	x^2= 27.8, df=21,	**7**	**3.0**
Other	1	2.4	8	8.3	1	1.9	2	5.0	p=0.15	**12**	**5.2**
Missing	*4*	.	*22*	.	*10*	.	*3*	.		*39*	.
Client's Employment Status											
Employed	3	7.0	13	13.7	18	33.3	8	20.0		**42**	**18.1**
Unemployed	31	72.1	77	81.1	35	64.8	29	72.5		**172**	**74.1**
Sickness benefit	6	14.0	3	3.2	1	1.9	1	2.5	x^2= 26.5, df=9,	**11**	**4.7**
In prison	3	7.0	2	2.1	0	.0	2	5.0	p=0.002	**7**	**3.0**
Missing	*4*	.	*22*	.	*10*	.	*3*	.		*39*	.
Client's Legal Status at Referral											
No legal issues	22	52.4	51	50.5	49	86.0	29	69.0	x^2= 22.2, df=3,	**151**	**62.4**
Subject to CJS procedures	20	47.6	50	49.5	8	14.0	13	31.0	p<0.001	**91**	**37.6**
Missing	*2*	.	*17*	.	*7*	.	*1*	.		*29*	.
Bail	*6*	*14.3*	*12*	*11.9*	*3*	*5.3*	*2*	*4.8*	*x^2= 4.1, df=3, p=0.3*	*23*	*9.5*
Probation	*5*	*11.9*	*11*	*10.9*	*2*	*3.5*	*4*	*9.5*	*x^2= 2.9, df=3, p=0.4*	*22*	*9.1*
DITO	*5*	*11.9*	*6*	*5.9*	*0*	*.0*	*0*	*.0*	*x^2= 10.4, df=3, p=0.02*	*11*	*4.5*
Current under arrest / on trial	*0*	*.0*	*5*	*5.0*	*1*	*1.8*	*4*	*9.5*	*x^2= 5.9, df=3, p=0.12*	*10*	*4.1*

Overall, more than a third of assessed clients were subject to criminal justice procedures at referral (37.6%, n=91), but the proportions of clients varied significantly between the four services.

Overall, a third of clients were in contact with other drug services at referral. Clients most likely to have current contact with other drug agencies were those who reported use of heroin in addition to crack (30/47, 63.8%).

Almost one in seven clients had contact with mental health services (14.3, n=33), but few clients had any current contact with alcohol services (4.3%, n=10) (Table 4.8).

Table 4.8 *Assessed Study Population: Contact with Other Drug, Alcohol and Mental Health services at referral.*

	London (n=46) N	%	Manchester #1 (n=118) N	%	Manchester #2 (n=64) N	%	Birmingham (n=43) N	%	*Test Statistic Chi Square:*	**Totals (n=271) N**	**%**
Client's Engagement with Drugs Services at referral											
Contact with drug service	6	13.3	41	47.1	22	37.3	14	35.0		**83**	**35.9**
No contact	39	86.7	46	52.9	37	62.7	26	65.0	*x^2= 14.8, df=3, p=0.02*	**148**	**64.1**
Missing	*1*	.	*31*	.	*5*	.	*3*	.		***40***	.
Client's Engagement with Alcohol Services at referral											
Contact with Alcohol service	2	4.4	4	4.6	2	3.4	2	5.0		**10**	**4.3**
No contact	43	95.6	83	95.4	57	96.6	38	95.0	*x^2= 0.2, df=3, p=0.98*	**221**	**95.7**
Missing	*1*	.	*31*	.	*5*	.	*3*	.		***40***	.
Client's Engagement with Mental Health Services at referral											
Contact with MH service	5	11.1	10	11.5	10	16.9	8	20.0		**33**	**14.3**
No contact	40	88.9	77	88.5	49	83.1	32	80.0	*x^2= 2.3, df=3, p=0.5*	**198**	**85.7**
Missing	*1*	.	*31*	.	*5*	.	*3*	.		***40***	.

3.3.3 Pattern of drug use

Table 4.8 shows that two-thirds of the total assessed population were identified as having been referred to their respective service for treatment due to problems relating to their use of crack (64.9%, n=155). A small proportion of these crack users were identified as being abstinent from crack during the month prior to referral (6.5%, n=10). A slight majority of crack users were also reported to use other drugs. Users of crack and heroin represented 30.3 per cent (n=47) of the assessed crack using population, while users of crack and other non-opiates made up a further 20.6 per cent (n=32). Clients reported to use crack only represented 41.9 per cent (n=65) of all assessed clients.

However, there were large and statistically significant differences between the services in the pattern of drug use (see table 4.9). The London service had the highest proportion of crack only users (66.7%, 24/36) among its assessed population and the lowest proportion of crack users who also used heroin (5.6%, 2 and 36). In contrast, only a quarter of crack users assessed at the Manchester #1 service used crack only (25% 14/56), while more than half also used heroin (55.4%, 31/56).

Table 4.9 *Assessed Population (All clients): Baseline Pattern of Drug Use.*

	London (n=46) N	%	Manchester #1 (n=118) N	%	Manchester #2 (n=64) N	%	Birmingham (n=43) N	%	*Test Statistic Chi Square:*	**Totals (n=271)** N	%
Summary of drug use in the month before referral (ALL CASES)											
No past month use	6	13.0	14	14.6	8	13.8	4	10.3		**32**	**13.4**
Crack ONLY	24	52.2	14	14.6	14	24.1	13	33.3		**65**	**27.8**
Crack + other non-opiates	9	19.6	9	9.4	6	10.3	8	20.5		**32**	**13.4**
Crack & heroin +/- other drugs	2	4.3	31	32.3	6	10.3	8	20.5		**47**	**19.7**
Cocaine +/- other drugs	3	6.5	9	9.4	12	20.7	5	12.8	$x^2=53.5$, *df=15, p<0.001*	**29**	**12.1**
Other stimulants	2	4.3	19	19.8	12	20.7	1	2.6		**34**	**14.2**
Not known	*0*	.	*22*	.	*6*	.	*4*	.		*32*	.
Was the client referred for problems relating to the use of crack cocaine?											
Crack user	36	78.3	56	48.3	30	47.6	33	84.6	$x^2=26.5$, *df=3, p<0.001*	**155**	**58.7**
Not a crack user	10	21.7	60	51.7	33	52.4	6	15.4		**109**	**41.3**
Not known	*0*	.	*2*	.	*1*	.	*4*	.		*7*	.
CRACK USERS: Summary of drug use in the month before referral	(n=36)		(n=56)		(n=30)		(n=33)			**(n=155)**	
No past month use	1	2.8	2	3.6	4	13.3	3	9.1		**10**	**6.5**
Crack ONLY	24	66.7	14	25.0	14	46.7	13	39.4		**65**	**41.9**
Crack + other non-opiates	9	25.0	9	16.1	6	20.0	8	24.2		**32**	**20.6**
Crack & heroin +/- other drugs	2	5.6	31	55.4	6	20.0	8	24.2	$x^2=38.4$, *df=12, p<0.001*	**47**	**30.3**
Other stimulants	0	.	0	.	0	.	1	3.0		**1**	**.6**
NON-CRACK USERS: Summary of drug use in the month before referral	(n=10)		(n=60)		(n=33)		(n=6)			**(n=109)**	
No past month use	5	50.0%	12	30.0%	4	14.3%	1	16.7%		**22**	**26.2**
Cocaine +/- other drugs	3	30.0%	9	22.5%	12	42.9%	5	83.3%	$x^2=14.6$, *df=6, p=0.023*	**29**	**34.5**
Other stimulants	2	20.0%	19	47.5%	12	42.9%	0	.0%		**33**	**39.3**
Not known	*0*	.	*20*	.	*5*	.	*0*	.		*25*	.

3.4 Baseline characteristics of the population in treatment

3.4.1 Number of clients, treatment tier and crack use

Just under half of the referred population started treatment (49.4%, n=221). Two-thirds of this population received a Tier 3 service, while 73 (33%) received a Tier 2 service. Among the clients receiving Tier 3 services, there were 99 clients identified as crack users (44.8% of the treatment population). This latter group represented the crack outcome study population.

3.4.2 Age, gender, ethnicity and referral source

We compared the demographic profile of the referred and assessed populations who started treatment with those who did not start treatment. This analysis showed that there was no marked or statistically significant difference in the age, sex and ethnicity profile of the treated and non-treated populations, and no evidence of differential rates of attrition among demographically defined sub-groups at either the pre-assessment, or post-assessment stages of the treatment process.

While differential rates of attrition have been noted in relation to clients from different referral sources in the pre-assessment period (see 3.3.1 above), there was no significant difference in the proportions of assessed clients from different referral sources that started, or did not start treatment.

3.5 Baseline characteristics of the crack outcome study population

We assessed the baseline characteristics of 99 crack users who were offered (and started) Tier 3 treatment at the four services.

3.5.1 Demographic characteristics of crack users in treatment

Table 4.11 shows the demographic profile of the crack outcome study population of all four services. The proportions of men and women (76.8% and 23.2% respectively) were similar to that observed for the total referred population (see table 4.3). The median age for men was 35 those (range: 18–63) and for women was 33 years (range: 20–46). Both of these median figures were higher (by two years) than the respective median ages of the total referred population. The proportion of Black Caribbean and Black African clients in the crack outcome study population (20.2% and 9.1% respectively) was markedly higher than the representation of both groups in the referred population (11.7% and 4.9% respectively). Conversely, white British clients were somewhat under-represented in comparison to the referred population (54.5% verses 68.6%).

Table 4.11 *Crack Outcome Study Population: Age, Gender and Ethnicity.* (n=99)

	N	%
GENDER:		
Male	76	76.8
Female	23	23.2
AGE by GENDER		
MALES:		
Median Age (range)	35	(18 – 63)
Age Groups: 18 - 20	1	1.3
21 – 25	6	7.9
26 – 30	13	17.1
31 - 35	17	22.4
36 - 40	18	23.7
41- 45	13	17.1
46 +	8	10.5
FEMALES:		
Median Age (range)	33	(20-46)
Age Groups: 18 - 20	0	.
21 – 25	4	17.4
26 – 30	4	17.4
31 - 35	5	21.7
36 - 40	9	39.1
41- 45	0	.
46 +	1	4.3
ETHNICITY		
White British	54	54.5
White other	1	1.0
Black British / Caribbean	20	20.2
Black British / African	9	9.1
Black other	1	1.0
Asian/Asian British *	4	4.0
Mixed White & Black Carib	8	8.1
Mixed - White & Asian	2	2.0

3.5.2 Pattern of past month drug use, frequency and level of crack use

Table 4.12 presents findings about drug use among the crack outcome study population in the month before referral and compares data obtained from each service. This analysis shows that there were no statistically significant differences in the types of drugs used in the month prior to referral between the services. Nevertheless, the observed totals suggest some clinically significant differences may exist. Notably, the majority of clients at the London service used crack only (73.7%, 14/19), while none were reported to be heroin users. In contrast, between one-third and half of crack users at the other three services also used other substances in the month prior to referral, with heroin use (in conjunction with crack) representing between 15 per cent (Manchester #2) and 38 per cent (Manchester #1) of the crack outcome study population at these services.

Table 4.12 Crack Outcome Study Population: Staff reported Baseline Pattern of Drug Use.

	London (n=19) N	%	Manchester #1 (n=29) N	%	Manchester #2 (n=27) N	%	Birmingham (n=24) N	%	Test Statistic Chi Square:	Totals (n=99) N	%
Summary of drug use in the month before referral											
No past month use	1	5.3	2	6.9	4	14.8	3	12.5		10	10.1
Crack ONLY	14	73.7	9	31.0	13	48.1	9	37.5		45	45.5
Crack + other non-opiates	4	21.1	7	24.1	6	22.2	6	25.0		23	23.2
Crack & heroin +/- other drugs	0	.	11	37.9	4	14.8	5	20.8	$x^2=18.5$, df=12, p=0.1	20	20.2
Other stimulants	0	.	0	.	0	.	1	4.2		1	1.0
Crack use in the month before referral											
Crack used	17	89.5	27	93.1	23	85.2	19	79.2	$x^2=2.42$, df=3, p=0.49	86	86.9
Not used	2	10.5	2	6.9	4	14.8	5	20.8		13	13.1
N of days used crack (in past 30)									Kruskal Wallis:		
N of valid cases	*19 of 19*		*24 of 29*		*27 of 27*		*24 of 24*			*94 of 99*	
Mean	14.4		10.4		10.4		15.3			12.5	
Median (range)	20	(0 – 30)	6.5	(0 – 30)	8	(0 – 30)	17.5	(0-30)	$x^2=3.5$, df=3, p=0.33	10	(0-30)
Typical spend on crack per day of use in the past 30 days											
N of valid cases	*12 of 19*		*18 of 29*		*19 of 27*		*20 of 24*			*69 of 99*	
Mean (£)	163		64		150		35.5			96.5	
Median (range) (£)	115	(0-400)	32.5	(0-200)	100	(0-500)	27.5	(0-120)	$x^2=9.1$, df=3, p=0.03	60	(0-500)
Total spend on crack in past 30 days (daily spend x days used)											
N of valid cases	*12 of 19*		*18 of 29*		*19 of 27*		*20 of 24*			*69 of 99*	
Mean (£)	3437		754		1797		768			1512	
Median (range) (£)	2950	(0 – 8,000)	568	(0 – 3,000)	960	(0 – 15,000	450	(0 – 3,000)	$x^2=6.9$, df=3, p=0.075	600	(0 – 15,000)

There was some evidence to suggest that patterns of drug use may vary with ethnicity. However, the relatively small number of cases meant that the statistical analysis required to properly explore these possible associations could not be undertaken.

Table 4.12 shows that clients in the crack outcome study population used crack on a median ten days in the 30 days before referral. The median daily and monthly spend on crack was £60 and £600 respectively. Clients at the London service reported the highest median daily (£115) and monthly (£2,950) spend.

3.5.3 How do clients finance their use of crack?

Table 4.13 presents findings in relation to the keyworkers assessment of how clients financed their use of crack in the month preceding referral. The majority of the crack outcome study population (84%) were unemployed or on sickness benefits, and only 16.7 per cent were currently in employment. It is therefore not surprising that all employed clients were reported to fund their crack use through their jobs (all of whom were men), while most of the unemployed total (63.3%) were reported to fund their crack use through their state benefits. Keyworkers reported that a quarter of the total crack outcome study population funded their crack use wholly or in part through criminal activity, while around one in five borrowed money and ran up debts. Two female clients were identified as being involved in sex work. The most commonly reported type of crime was shoplifting (16.7%).

Table 4.13 ***Crack Outcome Study Population: Client's method of financing or obtaining crack in the month prior to referral (Staff reported data).***

	N (n of valid cases = 90)	% *
Not applicable – Did not use crack in past month	*10*	*11.1*
State benefits	57	63.3
Criminal activity	23	25.6
Borrowed money / ran up debts	19	21.1
Regular paid job	15 **	16.7
Sold / pawned possessions	5	5.6
Casual work, extra jobs or 'moonlighting'	4	4.4
Sex work	2 ***	2.2
Dealing in drugs	2	2.2
Missing	*9*	.
Type of crime committed in past month		
Shoplifting	*15*	*16.7*
Theft from person	*6*	*6.7*
Fraud	5	*5.5*
Burglary	*1*	*1.1*

* *Multiple response. Sum of percentage figures exceeds 100%.*
** *All cases were males (Fishers x^2=4.6, df=1, p=0.03)*
*** *Both were females (Fishers x^2=8.9, df=1, p=0.033) There were no other significant gender differences.*

3.6 Findings from the qualitative study: factors influencing casemix

3.6.1 Number and characteristics of respondents

The qualitative fieldwork drew on interviews with staff and clients of all services. Clients interviewed were in various stages of treatment. Table 4.14 provides demographic and drug use data about the interview sample.

Table 4.14 Characteristics of qualitative client interview sample (n=17)

	London (n=5)	Manchester #1 (n=3)	Manchester #2 (n=5)	Birmingham (n=4)	**Total (n=17)**
GENDER					
Male	5	2	5	2	14
Female	0	1	0	2	3
AGE:					
Median (range)	32 (25-49)	34 (30-40)	33 (27-55)	38 (25-49)	33 (25-55)
ETHNICITY:					
White	1	3	5	2	11
African/Afro-Caribbean	3			2	5
Asian	1				1
DRUG USE HISTORY:					
Median n of years using crack cocaine: (Range)	9 (5-17)	10 (7-15)	4 (2-12)	5 (2-5)	5 (2-17)
Missing:	1 case		1 case		2 cases
Used heroin with crack cocaine (ever)	1	3	3	3	10
Use of crack in month before treatment episode:					
Using daily (30 days)	1	3		1	5
Using 11-29 days p.m.	2		2	1	5
Using 5–10 days p.m.	1		1	2	4
Abstinent in prison	1		2		3
Use of crack at interview:					
Using daily (30 days)		1			1
Using 5-10 days p.m.	4	2	1		7
None	1		4	4	9

A majority of respondents were male with a median age in the early 30s, while around a third were from non-white UK ethnic groups. Most had been using crack for significant periods before the treatment episode, while more than half had also used heroin. With the exception of three clients referred direct from prison, all were using crack regularly at referral yet half had achieved or maintained abstinence at the time of interview.

3.6.2 Observations on patterns of drug use

There are some indications (see tables 4.9 and 4.12) that the clients of the different services exhibited different patterns of crack use. For example, at the London service higher proportions of clients used crack without other substances, spending large amounts on crack in the process. At the other services there was a higher level of crack use with opiates. Table 4.14 shows that this pattern also evident among the small qualitative interview sample.

Some clients reported spending less money on crack when it was used with opiates. This was because the combination of crack with heroin was said to deliver a mellower and longer lasting high. When crack is used alone, the intense high is quickly replaced by a craving to regain that effect by smoking more. Some interviewees suggested that, having established a crack habit, they had started to use heroin to ameliorate the detrimental effects of crack and had then become physically addicted.

3.6.2.1 Working with opiate users

What difference then does it make to treatment delivery and treatment outcome if heroin is used with crack? Our interviews with both staff and users suggested that combined use can complicate and prolong the withdrawal process. With crack, withdrawal of the drug requires the client to master their psychological cravings, but with heroin it also involves physical withdrawal symptoms. In order to access methadone, a patient recovering from crack and opiate use may come into contact with other drug users in treatment services, while a person who is giving up crack alone

can avoid contact with other drug users and dealers. Interview clients confirmed that the use of relaxants such as opiates and alcohol can have the effect of reducing determination to resist cravings.

Crack workers must frequently liaise with workers from opiate services in order to develop appropriate care plans for clients referred for joint or parallel management. Some staff identified problems in matching treatment targets: opiate services were said to be less ambitious in treatment goals, being content in some cases to prescribe long-term methadone for clients, while crack services favoured a more dramatic and rapid progression toward abstinence. This reflects the fact that crack is not physically addictive and abstinence can therefore start immediately. It may also reflect an expectation that the client may not stay in treatment for long, as there is no equivalent to the methadone script to anchor clients to treatment.

3.6.3 Clients referred by other services

3.6.3.1 Referrals from criminal justice agencies

The majority of service users interviewed had served custodial sentences, although the majority were in treatment of their own volition. Several client interviewees commented on a recent trend to increase referrals to treatment as an alternative to prison. There are several different routes into treatment from CJS referrals – some clients are:

- Diverted by arrest referral workers before court appearances
- On DTTOs
- Referred before release by prison CARAT teams, or by probation officers.

All the crack services in our sample commented that there were high rates of non-attendance from CARAT referrals. Staff commented (in three services) that they double-booked CARAT appointments, so as not to waste time when clients failed to show up. Two of our interviewees in Manchester had been recently released from prison, serving two-and-a-half and three years respectively in a crack-free environment, and sought treatment because they knew that they were at high risk of returning to old habits.[1] A new crack service set up by London in partnership with NACRO plans to meet released prisoners at the prison gates. The Manchester #1 service now delivers a fortnightly group in Manchester prison to spread information about treatment for stimulant users, but some prisoners are not from Manchester and do not qualify for the service, and the group takes place on the detox wing, so tends to recruit polydrug users, excluding crack users who do not use the detox facility.

A yet more frustrating drain on resources for crack workers are those referrals from arrest referral workers of people charged or convicted of a drug-related crime who hope that an apparent commitment to treatment will reduce the sentence. A particular problem group is recreational cocaine powder users charged with possession who may be relatively well off and do not want treatment. Services are pressed by solicitors to assess clients and write court reports, knowing that, if the judge accepts a plea of contrition and intention to seek treatment, the subject will not attend the service again.

More successful are partnerships between DTTO teams and crack treatment services. Although there is variation in how DTTOs are applied around the country (for example, in the tolerance of relapse), collaborative working appears to be well established in the NECTOS services. Workers of all services said that the outcomes for non-voluntary clients could be surprisingly positive: all keyworking was after all predominantly motivational.

A significant minority of service users interviewed for this project said that they made a living through criminal activity. Having encountered crack in the course of other illicit activities, they suggested it had, if anything, compromised their abilities in this area. Crack workers also

[1] This point demonstrates the risk of confusing psychological and physical addiction and craving. If potential clients had to prove actual use of crack, rather than risk of use, these clients would be excluded from treatment.

recognised that there was some similarity between the sensations of using crack and the adrenalin rush of pulling off a successful crime. Both activities are risky and illegal. It would not therefore be entirely appropriate to assume that abstinence from crack would reduce crime in all cases.

3.6.3.2 Referrals from mental health services

Another client group that stands out from the accounts of keyworkers are clients referred by mental health services. Three of our services were attached to mental health trusts. One crack service manager had tried to demystify crack treatment through training mental health workers in techniques such as motivational interviewing: unfortunately (for this hard-pressed service) these sessions had instead generated more referrals. All of the community-based services took referrals of people with severe mental health problems (although it was less common for them to be accepted onto the London day programme). Crack workers were aware that people taking anti-psychotic drugs were self-medicating with stimulants. Although motivation to reduce crack use may be slow to generate, workers do not seem to find this group unrewarding to work with. One provision which services shared was the requirement that, in the early stages, a mental health worker who knew the client well should attend the treatment sessions.

People with long-term psychotic illness were said – by the two clients in this category interviewed for this study – to be at particular risk from unscrupulous users and dealers who would accompany them to the post office when benefits were due in order to share the crack it would purchase. While such behaviour was perfectly transparent to both mental health and drug workers, it was felt that police could not be involved without jeopardising the client.

This client group may be slower to motivate and change, and have more complex psychological problems; it may also be more difficult to engage them in stimulating activities that will replace drug use. These clients had each been in contact with crack treatment services for around two years in total (one in two episodes) – staff felt that treatment length should be relatively open-ended for this dual diagnosis group.

3.6.3.3 Outreach work and the significance of the service location

One factor affecting the recruitment of BME clients into treatment may be the precise location of the service. The Birmingham service, located on the edge of an area that is both ethnically diverse and economically deprived, derives almost 50 per cent of its clients from BME or mixed race populations (table 3.4). The manager suggested that locating a crack service in the centre of an Afro-Caribbean area would be counterproductive – once the purpose of the premises was known, people would not want to be seen entering it.

Both Manchester services have links with the Drugs and Race Unit. There is a strong sense that services are geographically rather than culturally inaccessible to clients. There is no facility to offer travel fares to clients in treatment (except for those in the London day programme) and although bus and train fares are paltry sums compared to money spent on crack, a recovering user living on benefits (rather than crime) may find them prohibitive if they need to attend several times weekly.

In addition to disseminating written material (e.g. in GP surgeries), both Manchester services deliver limited satellite services in ethnically diverse and deprived areas where residents do not or cannot access the central service. Workers have in the past resisted suggestions from senior trust managers that they should “outreach” crack houses and notorious pubs where dealers operate. These suggestions have been viewed as naïve and unsafe. Service providers have many ideas for the expansion of services into GP surgeries, or for further work among the homeless and in prisons, but insufficient resources to carry them out. Outreach is also difficult to justify for services where demand already dramatically outstrips supply.

Staff acknowledged there are different challenges in raising referrals of clients from different communities. In Manchester, Iranian doctors have been found to be a source of many referrals of Iranian patients to opiate services whereas patients from the Indian sub-continent rarely use this

referral route. Working with community leaders rather than with individual drug users may not make sense in this context, as this manager acknowledges:

> "Asian community leaders will not know anything about young Asian women using drugs, for example, because that is the one person more than anyone else they'd rather *didn't find out…"*

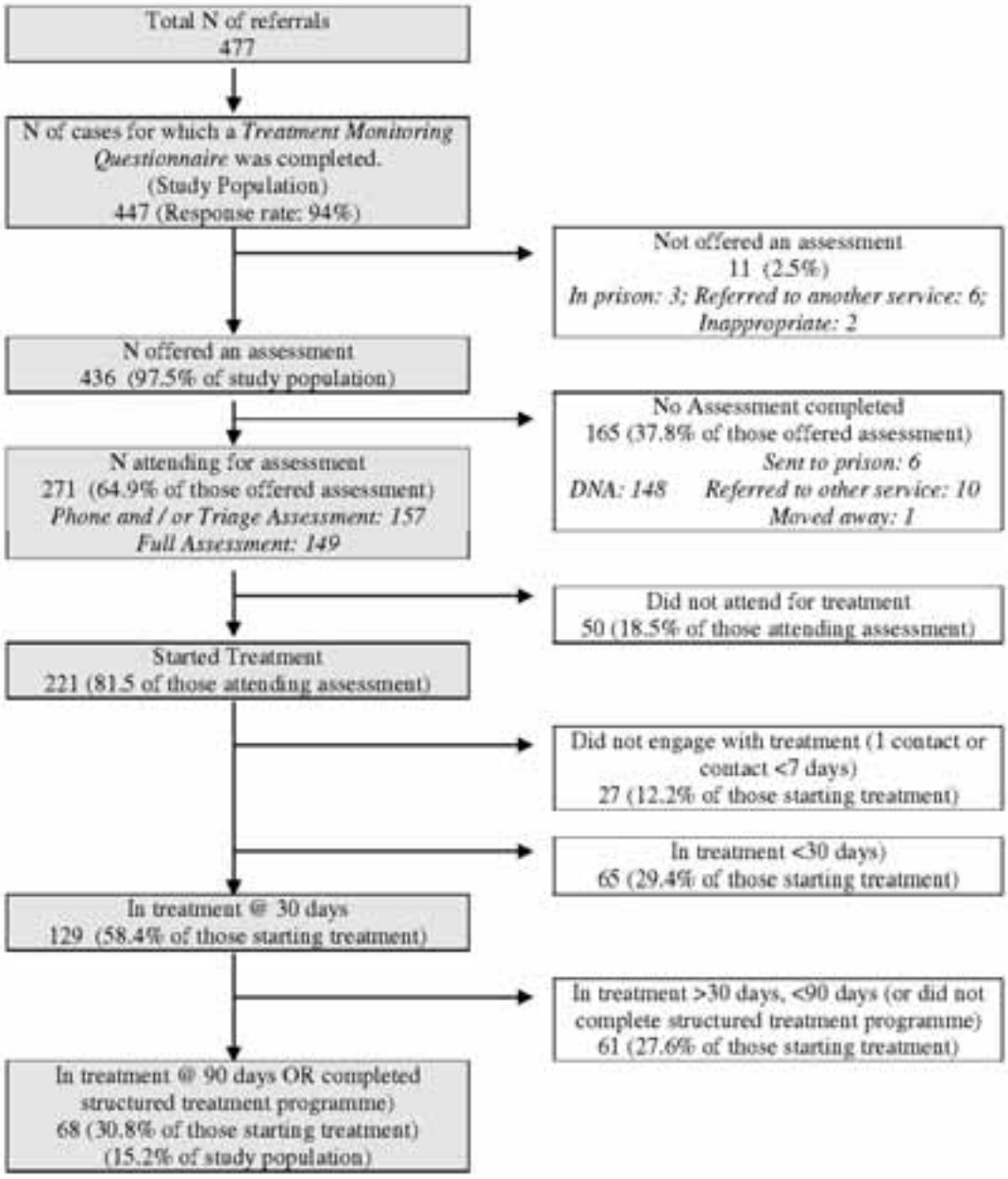
Among the ideas for more appropriate means of distributing information about drug services and dispelling myths which may deter users from attending (such as the belief that people in treatment have to register with the police), were neighbourhood barbershops and the families and friends of users. Some users may be under pressure from families not to do anything that could expose the family to shame in the eyes of the community, so working initially with relatives may be a worthwhile strategy to get the user into treatment.

4 Treatment process and cost

4.1 Retention and attrition at referral, assessment and the initiation of treatment

Figure 6.1 shows that 477 clients were referred to the four Tier 3 treatment services during the recruitment period. Data about the progress of these clients through the treatment process was supplied by service staff in 447 cases. This total represents the referred study population.

Figure 6.1 ***Progression of the study population through care pathways. Rates of retention and attrition at assessment and treatment. (All services)***



In almost all cases (n=436, 97.5%), clients were offered an assessment by the service to which they were referred.

Of the 436 clients offered assessment, less than two-thirds (n=271, 62.15%) subsequently attended for any form of assessment (either triage or full assessment).

There were 50 cases where clients who attended assessment, did not subsequently start treatment (18.5% of those attending assessment). Hence, 221 clients attended for treatment.

The proportion of the assessed population at each service that subsequently started treatment varied between 41 per cent (London) and 93 per cent (Manchester #1 and Manchester #2). These differences were highly statistically significant ($x^2=68.0$, df=3, $p<0.001$).

4.1.1 What is the relationship between retention, speed of assessment and the rapidity of starting treatment?

Table 6.1 compares the time interval (in days) between each client's dates of referral, the first date of assessment offered, the actual first date of assessment and the start of treatment. This analysis reveals significant differences in the speed of assessment.

Table 6.1 *Time interval (in days) between date of referral, assessment and start of treatment. Comparison between services with sub-group analysis of time intervals for clients (a) attending / not attending assessment, and (b) attending / not attending treatment.*

	London		Manchester #1		Manchester #2		Birmingham		*Test Statistic*	All Services	
Interval (Days)	N of cases	Median (range)	N of cases	Median (range)	N of cases	Median (range)	N of cases	Median (range)	*(Kruskal Wallis)*	N of cases	Median (range)
Referral to first assessment date offered	68	6 (0 – 32)	186	3 (0 - 62)	91	1 (0 – 12)	59	22 (0 – 76)	x^2=117.3, df=3, p<0.001	**404**	**4 (0 –76)**
Missing cases	*12*		*8*		*0*		*12*			*32*	
Sub-group analysis:											
Clients not subsequently attending assessment	22	6 (3 – 15)	68	4 (0 - 39)	27	3 (0 – 12)	19	22 (5 – 76)	x^2=47.1, df=3, p<0.001	**136**	**5 * (0 – 76)**
Clients subsequently attending assessment	46	6 (0 – 32)	118	1 (0 - 62)	64	0 (0 – 7)	40	18.5 (0 – 45)	x^2=75.4, df=3, p<0.001	**268**	**3 * (0 – 62)**
Referral to actual first date of assessment	46	8 (0 – 32)	118	1 (0 – 84)	64	0 (0 – 45)	40	24 (0 - 77)	x^2=70.2, df=3, p<0.001	**268**	**3 (0–84)**
Missing cases	*0*	.	*2*	.	*1*	.	*0*	.		*3*	.
Sub-group analysis:											
Clients not subsequently starting treatment	27	9 (0 – 32)	8	6.5 (0 – 61)	4	0.5 (0 – 3)	8	13.5 (0 – 42)	x^2=6.5, df=3, p=0.089	**47**	**7 ** (0 – 6)**
Clients subsequently starting treatment	19	7 (0 – 31)	110	1 (0 – 84)	60	0 (0 – 45)	32	26.5 (0 – 77)	x^2=55.1, df=3, p<0.001	**221**	**2 ** (0 – 84)**
Actual start of assessment to treatment start date	19	10 (0 – 118)	110	0 (0 – 67)	60	0 (0 – 6)	32	0 (0 - 60)	x^2=119.6, df=3, p<0.001	**221**	**0 (0–118)**
Missing cases	*0*	.	*2*	.	*1*	.	*0*	.		*3*	.
Total Interval - Referral to treatment start date	19	21 (4 – 138)	110	1.5 (0 – 84)	60	0.5 (0 – 45)	32	28 (0 – 77)	x^2=80.1, df=3, p<0.001	**221**	**3 (0 – 138)**

** The difference in the interval between referral and first assessment date offered to clients (all services) who attended assessment (median 3 days) and those who did not subsequently attend assessment (median 5 days) was highly statistically significant (Mann Whitney U: 13592, p<0.001). This was also true for the same sub-group analysis at Manchester #1 (median 1 vrs 4 days, p=0.001) and Manchester #2 (median 0 vrs 3 days, p<0.001). However, there was no observed difference at London (median 6 days for both groups, p=0.76) and only a modest non-significant difference at Birmingham (Median 18.5 vrs 22 days, p=0.08).*

*** The difference in the interval between referral and actual assessment date (all services) for clients who attended treatment (median 2 days) and those who did not subsequently attend treatment (median 7 days) was highly statistically significant (Mann Whitney U: 3854, p=0.004). Sub-group analysis at individual services was not performed due to the small number of cases in non-attending groups at some services.*

The most rapid assessment was achieved by the Manchester #1 and Manchester #2 services. Here clients were offered an assessment date a median three days and one day respectively, after the date of referral. Attrition at the assessment stage (i.e. failure to take up the assessment offered) occurred in 40 per cent and 30 per cent of cases at these two services, respectively.

At both services, there were highly statistically significant differences in the median interval between referral and first assessment date offered to sub-groups of clients who subsequently attended, or did not attend, for an assessment. At Manchester #1 clients who attended assessment were offered an assessment date a median of one day after referral. In contrast, clients who did not subsequently attend were offered an assessment a median of four days after referral (p=0.001). A similar pattern was observed at Manchester #2.

Contrasting findings emerge from the analysis at the other two services. Both London and Birmingham lacked the option of engaging clients quickly with Tier 2 treatments, and effectively had to operate waiting lists for Tier 3 treatments. However, this was managed in different ways by the respective teams.

At the Birmingham service the most significant delay in initiating treatment occurred between referral and assessment (median 22 days). This reflected a deliberate policy of not undertaking assessment until the service was in the position to initiate treatment for the client quickly once the assessment was underway.

At the London service, the assessment process operated under differing constraints. Clients attending the day programme required local authority funding to do so, unless funding had already been made available for those referred to the service through DTTOs. The service had a block

contract with certain high referring boroughs, and while this did not remove the requirement for a full assessment, it did potentially streamline the pre-treatment process for nearly half of the referred population (20/46 assessed clients, 43.5%). These arrangements meant that a full assessment (as opposed to a triage assessment) had to be undertaken at the earliest opportunity.

At the London service, in terms of the median times from referral to assessment, and from assessment to treatment, there were no statistically significant differences between clients who were block funded and those for whom individual applications needed to be made. However, given large observed differences, particularly in terms of the total time from referral to start of treatment (block contract 15 days; individual application 30.5 days), this absence of statistical significance may reflect the small number of cases available for analysis (n=19).

Overall, figure 6.2 shows that the London service achieved a significantly smaller proportion of its referred population in treatment (22.6% compared to between 41% and 66% at other services, $x^2=40.4$, df=3, $p<0.001$).

Figure 6.2 *Differential rates of attrition across the sample of services in the period between referral and start of treatment.*

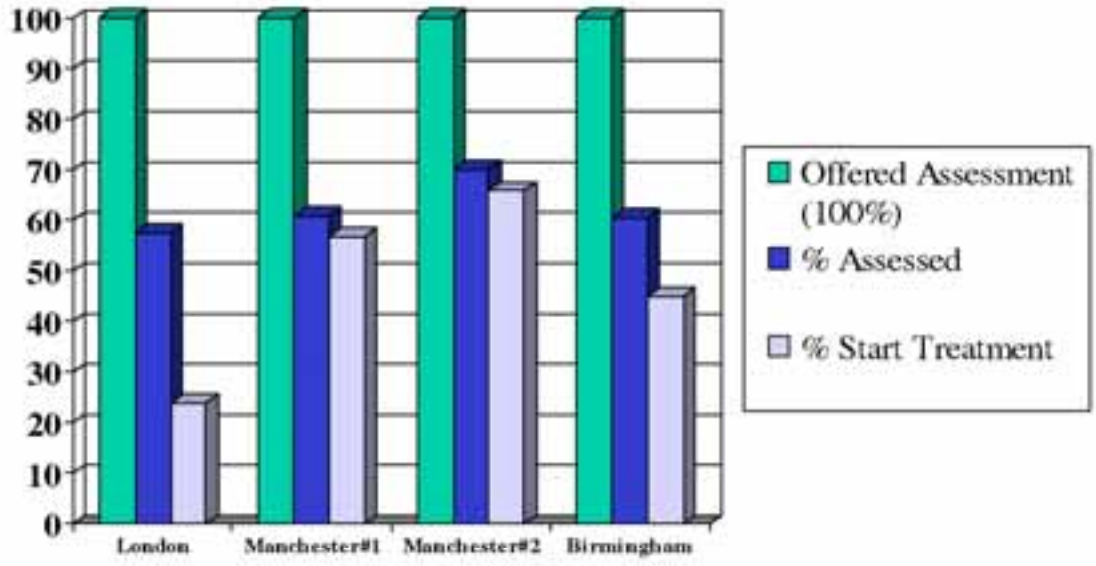
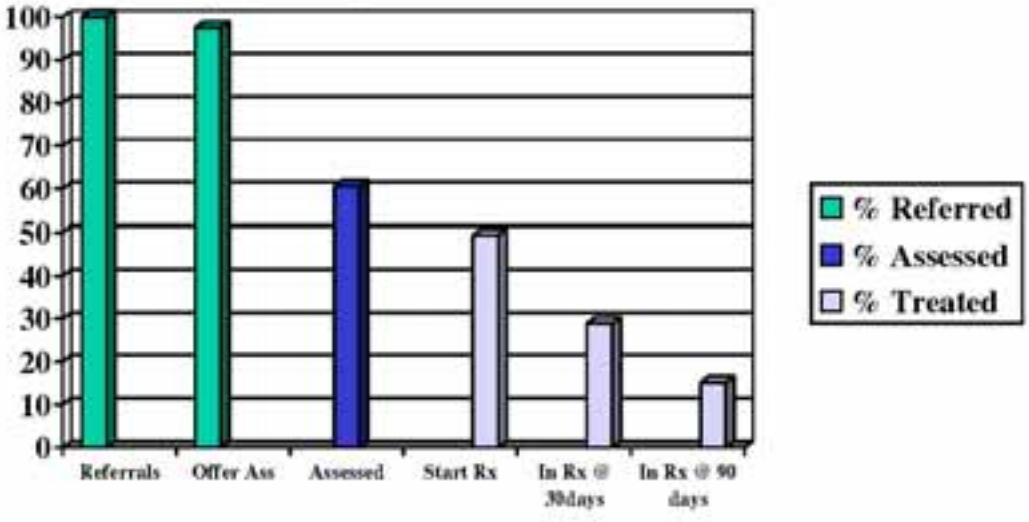


Figure 6.3 *Progressive rate of attrition from referral, through assessment and treatment at 30 and 90 days (All services).*



4.2 Retention in treatment

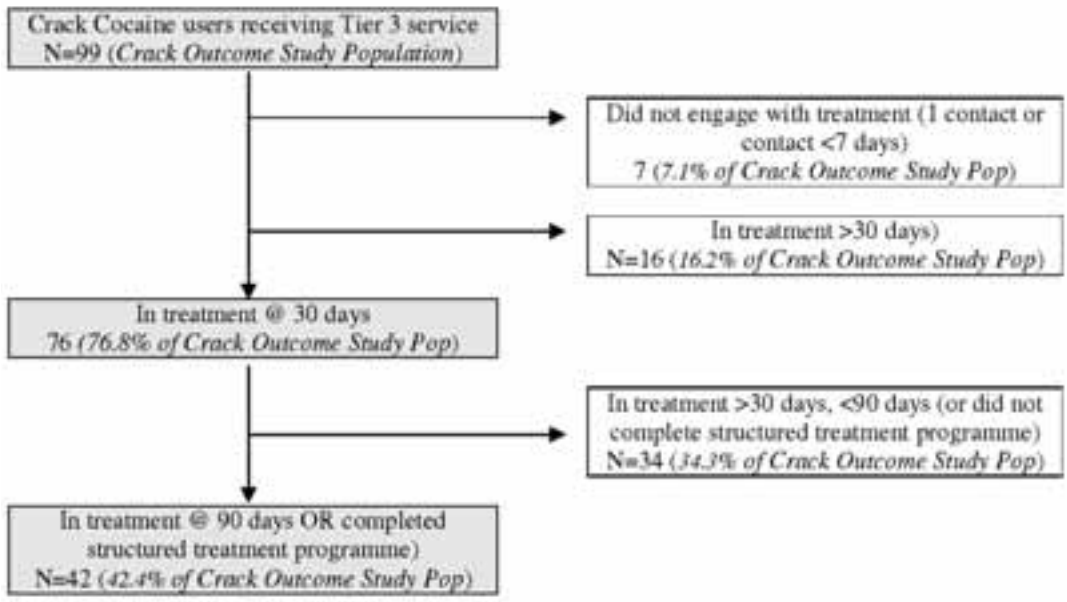
Figure 6.1 shows that a total of 221 clients started treatment at the four services (treated population). Attrition after 30 days of treatment was significant, with more than two out of five clients dropping out of treatment within this period (92/221, 41.6%). Indeed, 12.2 per cent (n=27) failed to engage with treatment and defaulted after either a single contact or within seven days of their treatment start date. Just 68 clients (30.8% of the treatment population, 15.2% of the referred population) were still in treatment at 90 days (our planned outcome study end-point) or had completed the structured day programme at the London service.[2]

Figure 6.3 illustrates this progressive rate of attrition across the full sample of services.

There was some evidence that retention in treatment may vary between sub-groups of the total treatment population, defined in terms of their primary drug use and treatment tier. The highest levels of retention were observed among crack users receiving Tier 3 services (the crack outcome study population).

There was no evidence of statistically significant differences between services in the retention of clients in the more tightly defined crack outcome study population (i.e. crack users treated at Tier 3). Figure 6.4 summarises information about the attrition and retention of this latter population.

Figure 6.4 Attrition and retention o f Crack Outcome Study Population during treatment. (All services.)



4.3 Nature and intensity of Tier 3 treatment for crack users

4.3.1 Frequency and duration of keywork contact

Table 6.2 confirms that there were modest non-significant differences in the duration of treatment for clients in the crack outcome study population. However, there were very large and significant differences in the frequency of keywork contacts between the teams. Table 6.2 expresses the frequency of keywork contact in terms of the mean and median number of days the client was in treatment between contacts. This analysis reveals that clients at the London service had by far the most intensive contact with keyworkers, with a median of one contact every 3.9 days. The

[2] This was a 12-week programme and hence could be completed in slightly less than 90 days.

comparable median figures for the other three services suggested clients received one keywork contact for every nine to 12.8 days in treatment.

Table 6.2 *Crack Outcome Study Population: Comparison of the frequency of keywork contact between teams.*

	London N (%)	Manchester #1 N (%)	Manchester #2 N (%)	Birmingham N (%)	*Test Statistic Chi Square*	Totals N (%)
	(n=19)	(n=29)	(n=27)	(n=24)		(n=99)
Treatment duration						
Days in Treatment (mean)	64.1	52.3	51.6	56.5	*Kruskal-Wallis:*	55.4
Median (range)	80 (7-90)	42 (7-90)	40 (7-90)	65 (7-90)	x^2=1.7, df=3, p=0.65	53 (7-90)
N of Valid Cases available for Keywork Contact Analysis	(n=13)	(n=27)	(n=25)	(n=24)		(n=99)
N of keyworker contacts						
Total	251	106	146	135		638
N per client (mean)	19.4	3.9	5.8	5.6		7.2
Median (range)	12 (1-50)	3 (1-13)	2 (1-33)	3 (1-15)		**4 (1-50)**
Keywork contact frequency						
Interval (days) between contact (mean)	5.2	15.4	14.9	12.7		**13.0**
Median (range)	3.9 (1.6–12.9)	12.8 (2–45)	9.0 (2.7–45)	9.8 (3.5–30)	x^2=15.4, df=3,p=0.002	**9.0 (1.6–45)**

Table 6.3 *Crack Outcome Study Population: Comparison of the duration and nature of keywork contacts between teams.*

	London (n=251)	Manchester #1 (n=106)	Manchester #2 (n=146)	Birmingham (n=135)	*Test Statistic Kruskal-Wallis:*	Totals (n=638)
Contact duration (minutes)						
Mean	111.85	47.65	72.72	51.63	x^2=99.5, df=3,	77.59
Median (range)	90.00 (10-230)	60.00 (10-160)	60.00 (2-210)	60.00 (5-150)	p<0.001	60.00 (2-230)
Missing cases	36	.	.	.		36
	n (%)	*n (%)*	*n (%)*	*n (%)*	*Chi-square:*	*n (%)*
Was the contact …						
Scheduled, or	89 35.5%	68 64.2%	107 73.3%	89 65.9%	x^2=68.6, df=3,	353 55.3%
Unscheduled?	162 64.5%	38 35.8%	39 26.7%	46 34.1%	p<0.001	285 44.7%
Crisis / emergency contacts	11 4.9%	17 18.3%	12 8.8%	22 19.5%	x^2=20.0, df=3,p<0.001	62 10.9%

Perhaps the most notable finding in relation to the duration of contacts was their relative length. Overall, the median length of contact was 60 minutes. Only 16 per cent of contacts were timed at less than 30 minutes and contacts of almost four hours duration were recorded. Keywork contacts at the London service were not only more frequent, but also appeared to be of significantly longer duration (median 90 minutes, as opposed to 60 minutes at each of the other services).

4.3.2 Longitudinal pattern of keywork contact

Figure 6.5 shows the frequency of keywork contacts during each successive ten-day period for clients in the crack outcome study population who completed 90 days of treatment (n= 42). This sub-population received a total of 401 keywork contacts. The data shows that the frequency of keywork contact was reduced over time. More than one-fifth of all contacts take place within the clients first ten days in treatment (22.4%, n=90), and almost half of all contacts are recorded by day 30 (49.6%, n=199).

Table 6.5 *Unit cost per client of each service (Based on numbers receiving brief interventions at assessment and / or attending treatment sessions post-assessment)*

Service	COSTS Capital overheads / indirect / management / consumables £	Staff £	ACTIVITY Throughput (Estimated N of cases in 12 months)	COST PER CLIENT £
London *	**109,718**	**178,474**	**47 ~** (113 assessed only)	**6,132** (2,550)
Birmingham *	**44,343**	**172,004**	**132**	**1,639**
Manchester #1				
All cases	**75,000**	**270,000**	**339**	**1,018**
Tier 2	*37,500*	*58,038*	*194*	*493*
Tier 3	*37,500*	*211,963*	*145*	*1,721*
Manchester #2				
All cases	**42,500**	**107,000**	**161**	**929**
Tier 2	21,250	18,000	45	872
Tier 3	21,250	35,000	116	485

** Teams providing Tier 3 Services ONLY*
~ There was no delivery of brief interventions at the assessments undertaken by this service that would make it comparable to other services. However, this service did complete assessments with clients at a frequency equivalent to 113 per year - a unit cost of £2,550 per assessed client. (See figures in brackets)

4.3.3 Therapeutic content of keywork contact

As we have noted above, most keywork sessions were relatively lengthy. This may explain why keyworkers frequently reported that contacts had multiple foci and involved the delivery of multiple interventions. Table 6.4 shows that virtually all contacts involved the delivery of one or more interventions.

Table 6.4 *Crack Outcome Study Population: Comparison of the content of keywork contacts between teams.*

	London (n=251)		Manchester #1 (n=106)		Manchester #2 (n=146)		Birmingham (n=135)		*Test Statistic Chi-square:*	Totals (n=638)	
PRIMARY FOCUS:	*n*	*(%)*	*n*	*(%)*	*n*	*(%)*	*n*	*(%)*		*n*	*(%)*
Delivery of Interventions	251	(100)	89	(84.0)	135	(92.5)	104	(77.0)	χ^2=35.9, df=3,p<0.001	579	(90.8)
Engagement	229	(91.2)	68	(64.2)	69	(47.3)	79	(58.5)	χ^2=99.6, df=3,p<0.001	445	(69.7)
Assessment	10	(4.0)	33	(31.1)	26	(17.8)	38	(28.1)	χ^2=57.7,df=3,p<0.001	107	(16.8)
Planning / reviewing care	31	(12.4)	13	(12.3)	51	(34.9)	27	(20.0)	χ^2=34.3, df=3,p<0.001	122	(19.1)
Accessing services / referral	5	(2.0)	15	(14.2)	22	(15.1)	21	(15.6)	χ^2=29.0, df=3,p<0.001	63	(9.9)
INTERVENTIONS:											
Counselling	244	(97.2)	71	(67.0)	113	(77.4)	98	(72.6)	χ^2=66.9, df=3,p<0.001	526	(82.4)
Brief advice	130	(51.8)	38	(35.8)	50	(34.2)	75	(55.6)	χ^2=20.9, df=3,p<0.001	293	(45.9)
Motivational interviewing	108	(43.0)	48	(45.3)	71	(48.6)	65	(48.1)	χ^2=1.6, df=3,p=0.67	292	(45.8)
CBT	88	(35.1)	1	(0.9)	53	(36.3)	10	(7.4)	χ^2=80.6, df=3,p<0.001	152	(23.8)
Psychotherapy	0	(0)	0	(0)	2	(1.4)	2	(1.5)	χ^2=5.1, df=3,p=0.16	4	(0.6)
Specific Drug Interventions	241	(96.0)	80	(75.5)	130	(89.0)	92	(68.1)	χ^2=63.8, df=3,p<0.001	543	(85.1)
Drug awareness	185	(73.7)	34	(32.1)	38	(26.0)	61	(45.2)	χ^2=105, df=3,p<0.001	318	(49.8)
Relapse prevention	86	(34.3)	36	(34.0)	110	(75.3)	59	(43.7)	χ^2=71.1, df=3,p<0.001	291	(45.6)
Relaxation / Stress manag't	134	(53.4)	20	(18.9)	46	(31.5)	27	(20.0)	χ^2=62.9, df=3,p<0.001	227	(35.6)
Harm reduction	71	(28.3)	32	(30.2)	21	(14.4)	36	(26.7)	χ^2=13.1, df=3,p=0.004	160	(25.1)
Acupuncture	54	(21.5)	34	(32.1)	32	(21.9)	4	(3.0)	χ^2=35.5, df=3,p<0.001	124	(19.4)
Other complementary ther'y	53	(21.1)	5	(4.7)	23	(15.8)	3	(2.2)	χ^2=35.5, df=3,p<0.001	84	(13.2)
Group work	39	(15.5)	7	(6.6)	2	(1.4)	0	(0)	χ^2=42.2, df=3,p<0.001	48	(7.5)
HEALTH & SOCIAL CARE:	205	(81.7)	74	(69.8)	115	(78.8)	106	(78.5)	χ^2=6.2, df=3, p=0.1	500	(78.4)
Personal relationships	152	(60.6)	34	(32.1)	95	(65.1)	39	(28.9)	χ^2=62.1, df=3,p<0.001	320	(50.2)
Social & life skills	163	(64.9)	22	(20.8)	56	(38.4)	31	(23.0)	χ^2=94.3, df=3,p<0.001	272	(42.6)
Housing	40	(15.9)	30	(28.3)	22	(15.1)	45	(33.3)	χ^2=22.3, df=3,p<0.001	137	(21.5)
Physical / sexual health	5	(2.0)	37	(34.9)	38	(26.0)	36	(26.7)	χ^2=76.7, df=3,p<0.001	116	(18.2)
Work / employment	38	(15.1)	15	(14.2)	34	(23.3)	29	(21.5)	χ^2=6.3, df=3, p=0.1	116	(18.2)
Mental health	1	(0.4)	15	(14.2)	53	(36.3)	34	(25.2)	χ^2=98.2, df=3,p<0.001	103	(16.1)
Finance/ budgeting	37	(14.7)	5	(4.7)	23	(15.8)	17	(12.6)	χ^2=8.2, df=3,p=0.043	82	(12.9)
Parenting / childcare	23	(9.2)	15	(14.2)	11	(7.5)	11	(8.1)	χ^2=3.7, df=3, p=0.3	60	(9.4)
Gender issues	50	(19.9)	2	(1.9)	5	(3.4)	3	(2.2)	χ^2=53.9, df=3,p<0.001	60	(9.4)
Legal advice / CJS issues	32	(12.7)	6	(5.7)	7	(4.8)	13	(9.6)	χ^2=8.9, df=3,p=0.031	58	(9.1)
Vocational skills	19	(7.6)	2	(1.9)	15	(10.3)	18	(13.3)	χ^2=10.9, df=3,p=0.012	54	(8.5)
Ethnic minority issues	35	(13.9)	2	(1.9)	1	(0.7)	5	(3.7)	χ^2=35.2, df=3,p<0.001	43	(6.7)
Work with carers	3	(1.2)	1	(0.9)	4	(2.7)	10	(7.4)	χ^2=14.1, df=3,p=0.003	18	(2.8)

Apart from specific counselling, drug-related or health and social care interventions, many contacts also had a focus on engagement. Assessment, and planning and review of care plans were additional foci in 16.8 per cent and 19.1 per cent of contacts respectively). The proportions of contacts involving each of the above foci varied significantly between the teams.

Most counselling involved either motivational interviewing (45.9%, n=293), which was provided with comparable frequency across all services, or brief advice (45.9%, n=293). CBT was reported to be a component of a third of contacts at the London service (35.1%) and at Manchester #2 (36.3%), but was infrequently practised at Birmingham (7.4%) and virtually non-existent at Manchester #1 (0.9%).

The frequency with which all the main drug specific interventions were delivered differed significantly between the four services. Aspects of health and social care were addressed in 78.4 per cent (n=500) of contacts and were reported in a consistently high proportion of the contacts at each service. Fifty per cent of contacts involved a focus on "personal relationships" (50.2%, n=320), with "social and life skills" identified as an element in 42.6 per cent (n=272). A range of other issues including "physical and sexual health", "finance and budgeting", and "legal problems", were addressed in 8–18 per cent of cases.

4.4 Findings from economic evaluation

The cost of capital overheads, indirect overheads, management costs and consumables, and staffing costs for each service and for each tier (where applicable) has been reported in tables 6.5 and 6.6. These tables present the findings from the calculation of the unit cost of each service based on the numbers of clients assessed (table 6.5) and the numbers attending treatment sessions post assessment (table 6.6).

Table 6.5 *Unit cost per client of each service (Based on numbers receiving brief interventions at assessment and / or attending treatment sessions post-assessment)*

Service	COSTS Capital overheads / indirect / management / consumables £	Staff £	ACTIVITY Throughput (Estimated N of cases in 12 months)	COST PER CLIENT £
London *	**109,718**	**178,474**	**47 –** (113 assessed only)	**6,132** (2,550)
Birmingham *	**44,343**	**172,004**	**132**	**1,639**
Manchester #1				
All cases	**75,000**	**270,000**	**339**	**1,018**
Tier 2	*37,500*	*58,038*	*194*	*493*
Tier 3	*37,500*	*211,963*	*145*	*1,721*
Manchester #2				
All cases	**42,500**	**107,000**	**161**	**929**
Tier 2	21,250	18,000	45	872
Tier 3	21,250	35,000	116	485

** Teams providing Tier 3 Services ONLY*

– There was no delivery of brief interventions at the assessments undertaken by this service that would make it comparable to other services. However, this service did complete assessments with clients at a frequency equivalent to 113 per year - a unit cost of £2,550 per assessed client. (See figures in brackets)

Table 6.6 *Unit cost per client of each service (Based on numbers attending treatment sessions post-assessment)*

Service	COSTS Capital overheads / indirect / management / consumables £	Staff £	ACTIVITY Throughput (Estimated N of cases in 12 months)	COST PER CLIENT £
London * ~	**109,718**	**178,474**	**47**	**6,132**
Birmingham *	**44,343**	**172,004**	**98**	**2,208**
Manchester #1				
All cases	**75,000**	**270,000**	**315**	**1,095**
Tier 2	*37,500*	*58,038*	170	562
Tier 3	*37,500*	*211,963*	*145*	*1,721*
Manchester #2				
All cases	**42,500**	**107,000**	**151**	**990**
Tier 2	21,250	18,000	35	1,122
Tier 3	21,250	35,000	116	951

** Teams providing Tier 3 Services ONLY*
~ Clients attending treatment at this service received a significantly more intensive, structured day programme

The unit cost for each client, service and tier varied slightly depending on whether the cost was based on those assessed or those starting treatment. It is for this reason that we have reported both methods.

4.4.1 Unit cost per assessed client

The unit cost per assessed client varied widely between the four services. At the highest it was £6,132 for the London service and at the lowest, £929 for the Manchester #2 service (table 6.5). The London service had by far the highest non-staff costs (capital overheads, indirect overheads, management and consumables), although its staff costs were comparable to Birmingham and between those of the two Manchester services. This difference in unit cost between the services clearly reflects these differences in operating costs, but also the numbers of clients seen by the services. The London service treated clients at a rate equivalent to 47 a year. Although twice as many clients would have been assessed (an estimated n=113) in the same period, it was unusual for brief interventions to be delivered at the assessments undertaken by this service (as commonly occurred at other services). However, it should also be acknowledged that the clients at this service received an extremely intensive service.

Clearly this intensity of contact needs to be borne in mind when interpreting these unit cost data. For example, dividing the unit costs presented in table 6.5 by the mean number of keywork contacts reported in table 6.2, provides a crude estimate of the cost of each keywork contact, revealing that the costs per contact at the London and Birmingham services were comparable (£316 and £293 respectively).

For the two Manchester services that provided both Tier 2 and Tier 3 services, the unit cost for each client differed. For Manchester #1, the unit cost for each client for the Tier 2 service was £493, compared with £1,721 for Tier 3. This reflects the higher staff costs for the Tier 3 service. In contrast, for Manchester #2, the unit cost for each client attending the Tier 2 service only was £872, compared to £485 for those attending Tier 2 and Tier 3 services. While the staffing costs were higher for Tier 3 at this service, many more clients were receiving Tier 3 and Tier 2 interventions (n=116), than were receiving Tier 2 only (n=45).

4.4.2 Unit cost per client attending treatment sessions post assessment

The unit cost per client based on the numbers of clients receiving treatment sessions post assessment also varied widely between the four services (table 6.6). However, this measure of activity widened the gap in unit cost between the Birmingham service (£2,208) and those of the two Manchester services (£1,095 and £990) due to the higher rates of attrition post assessment at the former service.

In terms of the comparison between Tier 2 and Tier 3 costs at the Manchester services, attrition post assessment served to increase the unit cost of Tier 2 treatment at each service, but leave the cost of Tier 3 unchanged. This was because all clients attending assessment – and receiving brief interventions – were classified as having received Tier 2 treatment if they were not offered, or did not accept further treatment.

4.5 Findings from the qualitative study

4.5.1 The characteristics of Tier 3 treatment

The crack treatment services we evaluated do not promote one-size-fits-all treatments using guidebooks, which can be firmly located in particular theoretical paradigms. Tier 3 treatments, whether delivered through keyworking or group programmes, are eclectic, adaptive to individual circumstances, and focus on consciously changing the client's awareness of maladaptive behaviour in order to implement strategies for change. Therefore, the approaches tend to fall within CBT parameters, although only a minority of staff (two interviewed for the study) had comprehensive CBT training. The emphasis of treatment is on supporting clients in developing their own potential for change. Care plans are tailored to individual circumstances, and convey progression in treatment, through challenges devised and met, over time. The motivational aspect of treatment is also ongoing.

All keyworking and group programmes educate crack users about the physical and psychological effects of crack, and many clients commented on how useful this was to them. Other core components of treatment (at all stages) are harm reduction and relapse prevention. Supplementary aspects of treatment address life skills deficits and relaxation techniques. Services will also support clients to identify education and training opportunities that promote social rehabilitation.

All the services deliver similar core aspects of assessment:

- Motivational interviewing
- Education on the effects of crack use
- Cognitive and psycho-social approaches to harm reduction and relapse prevention
- Care planning and elements of rehabilitation.

The extent to which the client can engage with more sophisticated CBT approaches such as visualisation techniques will be variable. Some workers use the experiences of other (anonymised) clients as models of what can happen to a crack user in recovery: these must be fairly successful approaches, as interviewed clients often speculated on how it was that a worker could be so knowledgeable about the highs and lows of crack use without personal experience.

The extent that workers become involved in more holistic case management activities will also depend on the clients' circumstances and on whether there is another care manager or service available to refer to. Workers generally agreed that they should not become involved in intensive counselling beyond drug issues. Yet they sometimes did, because the need was too urgent for counselling service waiting lists, or the client did not want to confide in another professional.

The frequency of keywork appointments was likely to change over time, with more intense contact in the beginning. Each client's care plan was likely to be reviewed at each contact, was

continuously flexible (reflecting changed patterns in drug use) and unique to them. The intensity of treatment – frequency and length of contact – was also variable, as was the length of time that clients stayed in treatment. Neither crack workers nor service users wanted treatment to be subject to arbitrary time limits: the temptation to use crack can return at any time according to circumstance, particularly if abstinence was enforced (for example by a prison sentence).

4.5.1.1 Client-keyworker relationships

The client-keyworker relationship is probably the key tool of most therapeutic Tier 3 services. Clients said that the way in which staff worked with them was very important to their commitment to treatment and retention in the service. Successful relationships between staff and clients in (we are conscious that those clients interviewed were clients who had been retained) appear to be generally characterised by the following qualities:

- Respect and empathy
- Non-judgemental
- Supportive, but at times challenging
- Founded on honesty
- Mutual rather than hierarchical.

Although there was no explicit emphasis on the theme, clients tended to talk about keyworkers as though they were role models, particularly in the way they helped them to appraise, assess and amend circumstances that had appeared irredeemable.

4.5.2 Factors influencing engagement with and retention in treatment

Factors important to engagement cannot be completely separated from those important to retention in treatment. In this section we describe a number of aspects of services and their operation that clients and staff identified as influential in terms of either engagement and/or retention.

4.5.2.1 Self-referral

In the referred study population, two services (London and Manchester #2) received more client self-referrals (around 50%) than referrals from any other source. Both staff and clients viewed the ability to self refer as important to attracting drug users into treatment as use of crack is highly stigmatised and the motivation of clients to contact services may be relatively short-lived. Self-referral also provides a degree of confidentiality, which may be valued by crack users who are ambivalent about seeking treatment. If other services are not involved in the referral the client knows they can also withdraw with minimal consequences.

4.5.2.2 First impressions

Physical environment

Clients (asked to recall their first visit) said that perceptions of the reception area and environment were important to clients attending services for the first time. Clients (in four of the five services) described service environments as attractive, calm, relaxing and clean. By implication, these aspects offer a welcome contrast with, and refuge from, the rest of the clients' lives, and convey to the client that they are valued.

Segregation, locked offices, obvious security devices, panic buttons and glass barriers at reception were identified (by staff and clients) as off-putting.

First contacts with staff

Staff and clients made a number of points about the importance of the initial reception of clients. The first contact is likely to be by phone and there are particular remits for staff to cover. Staff must:

- Assess if the client is suitable for the service
- Tell the client about the assessment and waiting list procedure
- Ascertain if there are risk factors (to self or others) that require immediate intervention.

This contact may be the only opportunity to promote the person's motivation to come into treatment. Therefore the crack worker has to be welcoming and should be wary of asking too many questions regarding identity. The worker has to convey (on no previous acquaintance) that they can be trusted to observe the appropriate level of confidentiality. However, staff do have to obtain a contact phone number – using letters to contact clients can breach confidentiality and phone contact appears to be preferred. Staff reported a need to be pragmatic and flexible in these arrangements. It is not unusual for callers to refuse to leave a contact number, but agree to phone back on a specified day and give an agreed code name.

Staff were well aware that clients of crack services – unlike clients of opiate services – do not know what to expect from treatment, so some flavour of this will probably also be conveyed in this initial conversation. Thereafter, the first contacts may be focused on conveying security, being welcoming and making a personal connection with the client. All services thought it was important to keep formal paperwork to a minimum and wherever possible to offer some direction to the client, even if they failed to meet formal criteria for the service.

Early treatment – responding to the client's motivation and ambivalence

With a potentially paranoid client population, workers are careful to prioritise the client's initial requirement of treatment. As one keyworker describes, the need to gather information for a formal assessment may have to be put on hold:

> *"*I almost feel like saying to the client, *'Right* your first session will only be about paperwork*', but* they want to spill their guts out: you just let them talk until they don't want to any more*."*

A high degree of ambivalence toward treatment is expected, especially during the early contact between a client and services. Clients who do not attend appointments are followed up, by phone where possible, and alternative arrangements made. There is widespread recognition among crack workers that the clients are ambivalent about treatment, and that an early disengagement may indicate that this is not the right time. Those services that do indicate that treatment is terminated (such as those with a waiting list for keyworking) tend to point out that treatment can be restarted at a more appropriate time.

4.5.3 Speed in initiating treatment

4.5.3.1 Local authority funding of placements

All crack workers interviewed said it was desirable to get clients into treatment as soon as possible, but the London service was hampered by the need for clients to be assessed for "spot-funding" by the care managers of their borough of residence. Although clients were assessed by the service prior to seeking funding, the additional funding assessment could take weeks. As the quantitative findings confirm, there is a relatively high rate of attrition between assessment and the agreement to fund placement at the London service. If the motivation of self-referrers is fragile, this funding mechanism may be an obstacle. The London service (voluntary sector) is the only one in our sample funded in this way. Staff of the Tier 4 residential service (also voluntary sector) were able to assess clients themselves and allocate them immediately to block-funded beds.

4.5.3.2 Open access Tier 2 services

Within the day services in our sample, there is a distinction between those that deliver open access Tier 2 services, as well as Tier 3 keyworking (the two Manchester services), and those that do not (the Birmingham and London services). These latter services are also, for different reasons, unable to offer early entry into Tier 3 treatment.

The Birmingham service is unable to offer immediate entry to treatment, because the staff team is too small to meet demand for keyworking and there is a waiting list of up to four weeks. Staff at this service were very aware that there was a high rate of attrition during this period.

Both Manchester services have direct access Tier 2 drop-ins, with acupuncture and activity groups (some staffed by volunteers). This was seen by staff as an important mechanism to promote both engagement and retention. Firstly, engagement was promoted because clients could access Tier 2 informally from the point of referral, effectively moving into treatment almost immediately and without the immediate challenge of intensive keyworking. Keyworkers emphasised Tier 2 services were vital routes into treatment, particularly for users in a crisis.

Secondly, retention was enhanced because clients were more likely to be "available" in Tier 2 for assessment (which could therefore be completed more rapidly). Finally, clients receiving Tier 3 keyworking were able to access additional Tier 2 interventions which some clients said were valued as interventions in their own right. This appeared to be because they focus on relaxation and offered respite from frenetic lifestyles.

4.5.4 Retention in structured programmes and group work

4.5.4.1 Lifestyle contrast

Group programmes tended to have specific difficulties in engaging and retaining clients. Two services in our sample provided group programmes, one as the core Tier 3 intervention and the other in development alongside Tier 2 interventions and Tier 3 case work. The Tier 3 day programme staff comment that attrition can be high in the first days of attendance: the initial contrast between the users' lifestyles and group programme is too stark – one client described the experience as "tedious".

4.5.4.2 Safety

Several crack workers identified safety as the first requirement for a crack service. Most (opiate-based) drug services are full of current users, and are not safe places for people struggling to be abstinent.

With no prescribed drugs on the premises, crack services can be drug-free. However, crack services see clients in very different stages of use. Most services try to implement boundaries between users and ex-users of drugs, and will, for example, arrange rapid access to keyworking for clients who could be vulnerable in the drop-in. Drop-in facilities, it is felt, should be actively managed by staff and volunteers, whether or not this is apparent to clients.

Safety is also important because of the link between violence, dealing and acquisitive crime. Clients coming into treatment who are still using crack may be particularly prone to paranoia and they need to feel confident that:

- Street issues such as drug debts cannot impinge on the service
- Staff can and will manage conflict
- Attendance at the service is not likely to be to their detriment in other contexts
- Disclosure to staff will be dealt with in confidence.

Despite the widespread association of crack and violence, staff felt the atmosphere was more positive when prescribing was not an issue.

For some clients, talking about crack use is a real threat to abstinence, particularly in the first days, when cravings are potentially at their worst. Some services promote rules to discourage talk about drug use, except in keywork sessions where the discussion is more managed.

4.5.4.3 Confidentiality

Concern about confidentiality is an important potential barrier to treatment and most crack workers emphasised the importance of having appropriate ethical practices in relation to confidentiality that are made very clear to clients. The policy, and any exceptions where client-keyworker confidentiality may be breached, should be made clear to clients early on.

4.5.5 Length of time in treatment

The views of both staff and clients suggested that the appropriate length of treatment was something to be determined on an individual basis. Such a calculation would depend, interviewees suggested, on the:

- Complexity of the client's needs
- Duration of drug use and the drug-using lifestyle that supports it
- Motivation of the client
- Client's vulnerability to relapse
- Client's confidence in strategies to deal with temptation to use
- Other distractions and enjoyment that the client can access in their life.

Clients tend to continue to attend services while they think they have something to gain from them. Crack is not physically addictive, so there is no natural indicator (such as the cessation of prescribed methadone) that treatment should be coming to an end. Clients interviewed tended to be in favour of open-ended treatment episodes: although some were very keen to move on and to leave the crack using periods of their lives behind, many also felt that they could be susceptible to relapse even after lengthy periods of abstinence.

Many clients and staff interviewed felt that a short time in treatment – such as 12 weeks in the day programme – was not enough to counter 10–15 years of drug abuse. There was resistance by all parties to arbitrarily time-limited approaches.

5 Treatment outcomes

5.1 Introduction

The pre-defined, primary outcomes for this study comprise a battery of measures of crack use that provide both qualitative and quantitative measures of consumption. Specifically we proposed to measure:

- Whether a client had used crack in the 30 days preceding the research assessment point
- The total number of days that the client had used crack out of the last 30 days
- The amount of money spent by the client on crack during a "typical" day when they were using in the preceding 30 days
- The total spend on crack over the preceding 30 days. This was based on a simple calculation of the typical daily spend multiplied by the number of days used.

The outcome analysis required that these measures be obtained at baseline, after 30 days in treatment and after 90 days in treatment. Assessments were to be carried out with a sub-sample of the total treatment population of the four services who met the following criteria:

- They were in treatment due to problems relating to their use of crack
- They received treatment at Tier 3 from their respective service.

For reasons described in section 1.3.3, we have not been able to perform the proposed outcome analysis using self-reported data. However, mindful of the potential problems of obtaining a high level of response from this client group, we implemented a parallel data collection exercise, which involved the collection of key informant data (i.e. from the client's keyworker) in relation to the main crack use measures described above. We also collected data about an important secondary outcome measure – involvement in crime.

5.2 How reliable is keyworker reported data about crack use and criminal behaviour?

Due to the poor response rate to the client survey there was extremely limited self-report data available to the evaluation. For this reason our baseline analysis and the outcome analysis has been conducted using data reported by keyworkers. In order to assess the validity of this approach we compared keyworker reported data with client self-reports as follows:

- We compared data about the frequency and quantity of crack used, in a sub-sample of 39 cases where we did obtain matched baseline data from keyworker and client.
- We compared the reported involvement in crime during the month preceding referral in a sub-sample of 33 cases where we obtained matched data at baseline.

5.2.1 Crack use

Table 7.1 shows the results of the matched case comparison of keyworker reports about whether a client used crack in the month before referral, and the client's self-report. This shows that in every one of 26 cases where keyworkers reported that the client used crack, this was confirmed by the client's self-report (positive predictive value: 100%). There was also agreement in two out of three cases where the keyworker reported an absence of crack use (negative predictive value: 67%).

Table 7.1 ***Matched case comparison of keyworker report and client self report of crack use in the month before referral.***

		Client Self-Report (Reference measure)		
		Used Crack (+)	Did not use crack (-)	*Totals*
Keyworker reported crack use	Used Crack (+)	36 (92.3%)	0 (0%)	36 (92.3%)
	Did not use crack (-)	1 (2.6%)	2 (5.1%)	*3 (7.7%)*
	Totals	*37 (94.9%)*	2 (5.1%)	*39 (100%)*

Observed proportion of cases in which assessments differed:	*2.6% (n=1)*
Validity of Phase I assessments:	
Sensitivity (% of reference measure + cases correctly reported)	*97%.*
Specificity (% of reference measure - cases correctly reported)	*100%.*
Positive predictive value: (probability of reported + being correct)	*100%*
Negative predictive value: (probability of reported - being correct)	*67%.*

Table 7.2 shows the results of further analysis in which we compared client self-report and keyworker reports of the number of days clients used crack in 30 days before referral, and their typical daily spend on crack.

Table 7.2 ***Matched case comparison of keyworker report and client self reported measures of crack use in the month before referral.***

	Keyworker report		Client self -report		Test Statistic
N of days used (past month)					
N of matched cases = 34					
Mean	13.3		14.5		*Wilcoxon*
Median (range)	12	(0 – 30)	12	(0 – 30)	*Z=-.498, p=0.62*
Typical spend on crack per day of use (past month)					
N of matched cases = 23					
Mean	£145.43		£193.48		*Wilcoxon*
Median (range)	100	(0 – 500)	£100	(0 – 1000)	*Z=-1.19, p=0.23*
Typical total spend on crack in the past month					
N of matched cases = 23					
Mean	£2456.30		£2446.81		*Wilcoxon*
Median (range)	960	(0 – 15,000)	£1,500	(0 – 12,500)	*Z=-0.54, p=0.59*

The analysis suggests that there was a high degree of concordance between the keyworkers' reports and the clients' self-reports on all measures with no statistically significant differences observed. Indeed, there was agreement about the median number of days of crack use (12), and the median typical daily spend (£100).

The findings from these analyses suggest that the keyworker reported data about crack use provides a reliable proxy measure for assessing crack use among the crack outcome study population.

5.2.2 Involvement in crime

Table 7.3 shows the results of the matched case comparison of keyworker reports about whether a client committed a crime in the month before referral, and the client's self-report. This shows that in 11 cases where keyworkers reported that the client was involved in crime, this was confirmed by the client's self-report in only five cases (positive predictive value: 45%). There was a higher level of agreement in relation to non-involvement in crime.

7.3 Matched case comparison of and client self report involvement in crime and keyworker assessment

		Client Self-Report (Reference measure)		
		Committed crime (+)	Did not commit crime (-)	*Totals*
Keyworker reported crack use	Committed crime (+)	5 (15.2%)	6 (18.2%)	11 (33.3%)
	Did not commit crime (-)	3 (9.1%)	19 (57.6%)	*22 (66.7%)*
	Totals	*8 (24.2%)*	25 (75.8%)	*33 (100%)*

Observed proportion of cases in which assessments differed:	*27.3% (n=9)*
Validity of Phase I assessments:	
Sensitivity (% of reference measure + cases correctly reported)	*62.5%*
Specificity (% of reference measure - cases correctly reported)	*76%*
Positive predictive value: (probability of reported + being correct)	*45%*
Negative predictive value: (probability of reported - being correct)	*86.4%.*

There were nine cases (27.3%) where the keyworker report differed from the client's self-report. In three cases the client reported involvement in crime, which the keyworker felt the client had not been involved in (false positive). In six cases the keyworkers reported involvement in crime that was "denied" by the client (false positive). Table 7.3 shows that keyworker reports achieved only moderate levels of specificity (correct reporting of negative cases: 76%) and sensitivity (correct reporting of positive cases: 62.5%).

The findings from these analyses suggest that the keyworker reported data provides an alternative measure for assessing the involvement in crime crack of clients, but one that needs to be used and interpreted with caution.

5.3 Crack outcome measures

Table 7.4 presents the findings of the primary crack use outcome analysis. Outcomes were assessed at 30 and 90 days. All the analysis was undertaken in relation to aggregated data from all four services.

Table 7.4 ***Primary crack cocaine outcome measure: Comparison between baseline and 30-day, and baseline and 90- day outcomes.***

	BASELINE	30 DAYS	90 DAYS	Test Statistic *Fishers x^2*
DID THE CLIENT USE CRACK IN THE PAST MONTH?				
Baseline to 30 days				
N using crack (%)	60 (85.7)	46 (65.7)	. .	*x^2=3.3, df=1,*
N not using crack (%)	10 (14.3)	24 (34.3)	. .	*p=0.081*
Eligible cases (in treatment at 1-month): 76				
N of matched cases: 70 (92.1%), Missing: 7 (7.9%)				
Baseline to 90 days				
N using crack (%)	36 (94.7)	. .	14 (36.8)	*x^2=1.3, df=1,*
N not using crack (%)	2 (5.3)	. .	24 (63.2)	*p=0.52*
Eligible cases (in treatment at 3-months): 42				
N of matched cases: 38 (90%), Missing: 6 (10%)				
N OF DAYS CRACK USE IN PAST MONTH				*Wilcoxon*
Baseline to 30 days				
Mean	12.39	5.42	. .	*z =-5.3,*
Median (range)	10.00 (0–30)	1.00 (0–30)	. .	*p<0.001*
Eligible cases (in treatment at 3-months): 76				
N of matched cases: 58 (76%), Missing: 18 (24%)				
Baseline to 90 days				
Mean	12.06	*4.76*	2.53	*z =-4.38,*
Median (range)	8.00 (0–30)	*1.00 (0–30)*	0 (0–26)	*p<0.001*
Eligible cases (in treatment at 3-months): 42				
N of matched cases: 34 (80%), Missing: 8 (20%)				
SPEND ON CRACK PER DAY OF USE				
Baseline to 30 days				
Mean	£100	£47	. .	*z =-2.99,*
Median (range)	£60 (0–500)	£20 (0–600)	. .	*p=0.003*
Eligible cases (in treatment at 3-months): 76				
N of matched cases: 42 (55.3%), Missing: 34 (44.7%)				
Baseline to 90 days				
Mean	£148	*£34*	27.86	*z =-3.52,*
Median (range)	£100 (0–500)	*£20 (0–200)*	0 (0–200)	*p<0.001*
Eligible cases (in treatment at 3-months): 42				
N of matched cases: 21 (50%), Missing: 21 (50%)				
SPEND ON CRACK PER MONTH				
Baseline to 30 days				
Mean	£1605	£370	. .	*z =-3.92,*
Median (range)	£598 (0–15,000)	£80 (0–3,000)	. .	*p<0.001*
Eligible cases (in treatment at 3-months): 76				
N of matched cases: 42 (55.3%), Missing: 34 (44.7%)				
Baseline to 90 days				
Mean	£2546	*£336*	£306	*z =-3.43,*
Median (range)	£960 (0–15,000)	*£60 (0–3,000)*	0 (0–3,000)	*p=0.001*
Eligible cases (in treatment at 3-months): 42				
N of matched cases: 21 (50%), Missing: 21 (50%)				

NB: Data aggregated from all centres.

Of the 99 cases that started treatment at baseline, 76 remained in treatment at 30 days, while 42 were in treatment at three months. Keyworkers provided information about whether the client used crack in the past 30 days at both baseline and one-month assessments in 70 cases (92.1% of those in treatment at one month), and in 38 cases at baseline, one-month and three-months (92.1% of those in treatment at three months). This analysis shows that while the proportion using

crack in the previous 30 days was reduced at both one- and three-month follow-up points, neither difference was statistically significant.

Despite the absence of any statistically significant increase in abstinence, we found that large and statistically significant reductions in the frequency and amount of crack used were observed. At baseline, clients used crack for a median of 10/30 days. At 30 days, this population of clients had reduced their frequency of use to one/30 days ($p<0.001$). Baseline and 30-day assessments showed that the population remaining in treatment at 90 days was a representative sub-group of those whose outcomes we assessed at 30 days. Within this latter 90-day population, further reductions in the frequency of crack use were observed (median 0/30 days) ($p<0.001$).

Data was available in fewer cases about the amounts clients spend on crack on a typical day. Nevertheless, this measure of consumption (and the monthly spend calculated by multiplying the daily spend, by the number of days crack was used) also showed significant reduction from baseline to both 30 days and 90 days.

Median figures at 90 days indicate a dramatic reduction in use, confirming that the majority still in treatment at 90 days were abstinent (63.2%) and therefore spent nothing on crack.

5.4 Involvement in crime

Table 7.5 shows that of 59 clients in treatment at 30 days, 14 (23.7%) were reported to have been involved in crime during the 30 days prior to referral. When assessed 30 days into treatment the proportion of clients that keyworkers identified as involved in crime had reduced significantly to 13.6 per cent (n=8).

Table 7.5 ***Crime outcome measure: Comparison between baseline and 30-day, and baseline and 90-day outcomes.***

	BASELINE	30 DAYS	90 DAYS	Test Statistic *Fishers* x^2
DID THE CLIENT COMMIT CRIME DURING THE PAST MONTH?				
Baseline to 1-Month				
N committing crime (%)	14 (23.7)	8 (13.6)	. .	$x^2=7.7$, $df=1$,
N not committing crack (%)	45 (76.3)	51 (86.4)	. .	$p=0.014$
Eligible cases (in treatment at 1-month): 76				
N of matched cases: 59 (77.6%), Missing: 17 (22.4%)				
Baseline to 3-Months				
N committing crime (%)	10 (27.8)	. .	3 (8.3)	$x^2=2.5$, $df=1$,
N not committing crack (%)	26 (72.2)	. .	33 (91.7)	$p=0.18$
Eligible cases (in treatment at 3-months): 42				
N of matched cases: 36 (85.7%), Missing: 6 (14.3%)				

NB: Data aggregated from all centres.

Among the sub-group for which baseline and 90 day follow-up data is available (n=36) the proportion of clients committing crime was reduced (27.8% (n=10) to 8.3 per cent (n=3)). Due to the smaller number of valid cases available for analysis this difference in proportions did not attain statistical significance.

5.5 Based on the qualitative study, what factors influence the attainment of crack treatment goals?

The following is an account of aspects of treatment which service clients and staff identified as having an important influence on the attainment of treatment goals.

5.5.1 Philosophy of respect and trust

Crack users are highly stigmatised and often, as a result of their actions, may be on poor terms with family and acquaintances. It was clear from our client interviews that people using crack do engage in highly anti-social behaviour, such as domestic violence, primping, and burglary. In order to discuss and address these issues, workers need to be non-judgemental, but also to balance this with approaches that encourage less self-destructive and anti-social behaviour. It did seem that each service promoted a similar ethos of staff-client relationships. Service staff all talked about the importance of offering clients "unconditional positive regard" or "respect", and the message that "you are going through a difficult time, but you are worthwhile".

Clients for their part responded positively to being valued by staff. Our sampled services were anti-hierarchical. This was reflected in the language and style of staff-client interactions, and in the environment. For example, two of the services do not segregate clients from the spaces and offices used by workers, and have not yet suffered any thefts or misappropriation of personal property. Workers say that placing expectations of trust and probity on these clients encourages them to live up to them.

5.5.2 Client-keyworker relationships

In the absence of medication, the staff of crack services are the medium through which most therapeutic interventions are delivered. The therapeutic relationship between keyworker and client was said (by the clients interviewed) to be crucial to the treatment process. The day programme at the London service also offers structured one-to-one keywork sessions with clients, to supplement the group work. With keyworker sessions the forum for confidential discussion of sensitive personal issues, they are in most cases the most intense aspect of treatment.

As the relationship develops, clients may feel that they "owe" it to their keyworkers to resist the urge to use. It is clear from the many appreciative comments that clients made about their keyworkers that their personal qualities of humour, integrity and empathy contribute greatly to the treatment process. An important aspect of the success of these services appears to be the enthusiasm that staff bring to their work. Most keyworkers interviewed said that the casework they undertook with clients was extremely creative, worthwhile and rewarding.

It is relevant to note here that, even in the structured day programme, where peer interaction is a tool of treatment, most clients (with some exceptions) did not emphasise relationships with other clients in treatment as important to engagement and treatment.

Volunteers contribute significantly to three of the four community services: they (and the Tier 2 and administrative services they deliver) are valued by clients and staff alike. Volunteers (according to two managers) may act as role models illustrating capacity for change.

Our findings are that there is not a high demand for aftercare groups among crack users. With two exceptions, clients interviewed said they wanted to move on from crack use and make relationships with people who were not linked to past "mistakes". Only one service had (recently) started an aftercare group, but take-up had been poor according to the worker and manager concerned.

The client interviews suggest that clients who have experience of group programmes attach greater value to peer support and group working than do those who have no experience of groups.[3] One reason given by clients is that group work can make one feel better about oneself:

- Service users see others who have common experiences and made common mistakes, helping to dissipate guilt and shame
- Clients can use their experiences and knowledge in a positive way to help others.

This supports the view that both keyworking and group work should ideally be available in all services.

5.5.3 Client-identified treatment goals and strategies

Services tried to promote user involvement at an individual level in the development of the clients' own care plans and the identification of their own treatment goals – in most cases clients want to achieve abstinence. However, keyworkers from this and other services also described clients whose stated goals were reduction in use (e.g. from daily use to weekend use only). Consistent with client-defined treatment goals, leaving treatment may indicate that the client has achieved the goals they have set themselves.

5.5.4 Support with practical problems

Most workers prefer not to become involved in the management of clients' practical problems. This was largely on grounds of their lack of expert knowledge and limitations on the time they were able to devote to it. However, many keyworkers indicated that they would take on this work if there was no obvious service to refer to. In doing so they recognised that there was often a dividend in terms of building trust with the client, and thereby promoting retention and improved treatment outcomes.

5.5.5 Empowerment and motivation of clients to change

Treatment is understood by keyworkers as a joint enterprise in which the client is empowered to lead. Clients have to take an active part in treatment, as they must implement the strategies and behaviours discussed in keywork sessions in their everyday lives. The client is not alone and can feel supported in their struggle, but is not allowed to become dependent on services.

A common theme highlighted by workers during keywork is the examination of the link between actions and their consequences, where actions include relapse, drug use, offending behaviour and damage to relationships with significant others.

Empowerment to change requires that clients overcome some of their negative self-assessments. In some cases, low self-esteem may be a factor in crack use; in any case, crack use – loss of control, and the stigma of drug use – will have compounded low self-esteem. Demoralisation is closely associated with relapse and raising self-esteem without appearing to patronise the client, or to excuse or collude with bad behaviour, is one of the fine balances that crack keyworkers have to achieve in their work.

The day programme includes sessions on stereotyping, which are concerned with deconstructing the assumptions that different types of people may make about others in the group, as well as looking at those applied to crack and other drug users.

> *"There are a lot of stereotypes on both sides: us as 'normal' people, for want of a better word, and on crack: crack users are violent and Black – a lot of people think crack is Black and Black is crack." (keyworker)*

[3] One client who had had no opportunity of group work said he would have liked the option: he described himself as socially isolated.

The work on stereotyping is powerful because crack users may, like the media, attribute fixed characteristics to themselves and assume that they are unchangeable.

5.5.6 Role of carers

Four (of 17) interviewed clients said that their partners had been highly instrumental in encouraging them into treatment. However, only one service (Manchester #2) described working directly with carers. It's clear that this 'neglect' of carers is linked to capacity – investment in carers risks "waste" of scarce time, as it is likely that many carer-referred clients would never attend.

5.5.7 Encouraging self-responsibility and discouraging dependence

All of the crack workers delivering treatment described the importance of motivational interviewing, in which clients are encouraged to believe (whatever their circumstances and history) that they can give up crack and can make changes in their own lives.

As a corollary to this approach, several workers suggested they must discourage clients from becoming dependent on services, not only because this is counter-productive to recovery, but also because contact with services is inevitably limited. Workers emphasised that service users must find their own strategies for avoiding crack use.

Emphasis is put upon issues of choice: users are asked to reflect on mistakes they have made, but encouraged to believe these need not be repeated. The moral dimension in these messages is subtle rather than prescriptive. Workers do not castigate clients for burglary, but invite them to consider the consequences of their actions, including those detrimental to themselves, and to consider how they might choose to act differently in the future.

All the crack workers said that challenge was an important ingredient in treatment, promoting honesty and self-awareness.

5.5.8 Relapse prevention

Relapse prevention for those seeking abstinence, or harm reduction for those continuing to use, is a central feature of the treatment intervention, and the one that clients most often talk about when they describe treatment. In opiate services, harm reduction and relapse prevention may promote quite different approaches and goals, but in crack treatment, although strategies to achieve these aims may change, the central point is to resist the urge to use crack, either at all, or on some of the occasions when temptation arises. This is the aspect of treatment that clients use and test on a daily basis.

> *"He [the keyworker] gives me a very nice rational thought process. It's something that I can use as a defence, you know, to think 'now hang on, I've seen what's happening here now and I can do something to avoid it'." (Service user)*

Staff and clients of all services described the development of these strategies, tailored to individual circumstances. These are broadly CBT approaches, although there was variation among individual practitioners as to whether they claimed to deliver CBT.

Although all the services can implement testing and may do so at the client's request (e.g. to support child access petitions), keyworkers tended to feel it was useful to divorce themselves from the more coercive aspects of treatment and testing orders. In order to implement, review and redesign relapse prevention techniques that address the individual's lifestyle and behaviour, it is crucial that service users can "confess" to relapse.

Alongside turning negative events into positive events, workers stressed that resisting powerful cravings to use crack should be identified as a big achievement.

5.5.9 Flexibility in services delivered

Flexibility, both in terms of therapeutic approach and service delivery, appeared to be a key value for services. Crack workers reported delivering a wide range of formal therapeutic approaches.

Workers also reported frequently rearranging their schedules when clients arrived for a session on the wrong day or time. Although workers might refuse to exercise such flexibility if they had reason to feel this would be therapeutic to the client, this flexibility was often extended to clients whose lives were unstable and chaotic, and who would otherwise have difficulty receiving keyworking sessions.

5.5.10 An exit strategy

Some workers prioritise the finding of new ways to live, and new sources of pleasure, from the beginning of treatment. Most longstanding drug users effectively lose their friends when they give up drugs. They also lose the activity that they have come to regard as their major source of relaxation and pleasure. The end of treatment is an aspiration, but also a difficult transition. It is recognised that other activities are needed to fill the time previously devoted to funding, buying and using crack. Services have good links with training and work placement counsellors through which they try to place clients who are unemployed.

All the services were ambivalent about discharging people who had not turned up for appointments, looking for ways to leave the door open to further approaches. It is possible that some of those who have left the service unexpectedly may be sustaining improvements, but are also leaving their options open.

The degree to which ex-users wanted to build on their experience of drug use varied. Some were interested in contributing to services in future, valuing and using their experience of crack use. Others wanted to forget the past, and felt their use of crack had demeaned them.

Others were very concerned about the impact of past illegalities on relationships and careers – it was quite difficult to persuade some of these clients to undertake the qualitative interview for fear of repercussions.

6 Discussion

6.1 Nature of the services

Our findings provide new evidence about the provision of specialist crack services in the UK. Before we review the key findings in relation to recruitment, treatment process and outcome, let us reflect firstly on the nature of the services we evaluated.

The qualitative findings illustrate that services for crack users exhibit a variety of treatment models and this evaluation has provided an opportunity to observe these different models of service delivery. There are common features between the services, but also some important points of contrast. These need to be clarified at the outset.

With respect to the Tier 3 services, these services did not prescribe, but provided case work, complementary therapies and psychosocial interventions. However, the key similarity between these services is their strong commitment to case work. We use the term case work advisedly, because workers at each of the services were often very specific about its use to describe their work with clients, and rejecting of the term “case management”. Part of the reason for the workers choice of terminology was about conveying the holistic and client-led nature of their case work, but it was also about being realistic in relation to the ability of teams to offer comprehensive and co-ordinated care planning.

All services recognised that the social and situational aspects of a client's circumstances were potentially linked to crack use and abstinence, and that there was a role to be played by other agencies in changing people's life situations in ways that supported and reinforced the attainment of crack treatment goals. However, these services did not have either the resources (time or skills), nor did they feel empowered to engage in the sort of brokerage case management that might be associated with the Care Programme Approach (CPA) practised within community mental health services.

Instead, keyworkers approached the social and situational aspects of a client's drug use through practical problem solving and liaison with a selective (but certainly not comprehensive) range of agencies with which close working relationships had been established. Whatever therapeutic interventions the clients received – and services were generally eclectic and flexible in this regard – this practical client-led, problem solving was the basis of case work across the sample of services.

Consistent with the Models of Care: Update 2006 (NTA, 2006), all of the services were orientated towards abstinence as the primary treatment goal and relapse prevention, though they were tolerant of relapse.

The critical points of contrast between the services were the extent to which treatment programmes were structured and the presence or absence of Tier 2 interventions. Two services (those based in Manchester) incorporated Tier 2 services and were consequently able to operate a lower threshold for referrals and to engage clients with some form of treatment quickly. The services in Birmingham and London did not have this facility, but chose the alternative option of providing intensive case work to those who did engage with treatment. Additionally, the London service offered a highly structured day programme.

6.2 Key findings

What then were the key findings to emerge in relation to the operation of these services, and their effectiveness in engaging, retaining and treating crack misuse?

1. There does appear to be demand for all of the services that we evaluated that matches (and in some cases exceeds) the capacity of the services.

2. Services are susceptible to shifts in the patterns of drug use and need to be adept at responding to referrals from clients presenting with problems relating to a range of stimulant drugs.

Patterns of baseline drug use among the assessed and treated populations exhibited some variation between the services. This is to be expected given that some services very explicitly targeted crack users (notably London, but also Birmingham), while others addressed the needs of a broader population of stimulant users (both Manchester services). However, even within the more tightly defined sub-group that made up the crack outcome study population, some clinically important differences in drug use remain. While two-thirds of this latter population at the London service used crack only and none used heroin, at Manchester #1 less than one-third used only crack, while more than one-third used crack and heroin in combination. These differences in case mix are likely to be associated with outcomes, with baseline heroin users more likely to relapse back into crack use (Harocopos *et al.*, 2003).

3. There was a strong consensus among staff and users about the need for specialist services for users of crack (or at the very least for stimulant users generally) that were separate from those for primary opiate users.

We cannot assess whether there were differential outcomes for crack users who did, or did not use heroin. While these services did engage and treat clients who used both crack and heroin, there

was a consensus among staff that heroin complicated management, and could undermine withdrawal from crack.

4. There are high rates of attrition among the referred population prior to assessment.

Just under half of the clients referred to the Tier 3 services eventually started treatment. Similar rates of attrition have been described in other studies (Agosti *et al.* 1996; Festinger *et al.* 1995; Stark *et al.* 1990). Our study also appears to confirm that the highest rates of attrition appeared to be associated with increased length of time between referral and assessment (Festinger *et al.* 1995; Longhi *et al.*, 1991). Retention in the pre-treatment phase appears to be increased by services that use open access Tier 2 interventions to promote engagement with clients at assessment (or as soon as possible after), while also minimising the waiting time between referral and assessment.

5. There are high rates of attrition among clients that start treatment.

Around a quarter of crack users receiving Tier 3 interventions dropped out of treatment within 30 days and less than half remained in treatment at 90 days (or had completed 12 week treatment programmes). Higher rates of retention during treatment may be associated with higher threshold services offering more intensive case work. However, there is no known optimal period of treatment, and the qualitative findings suggest that some clients may potentially derive important and even sufficient benefits from brief contact with services.

6. Referral source appears to be a variable associated with differential rates of attrition.

Clients who self-referred or were referred by mental health services appeared most likely to attend for assessment, while clients referred by criminal justice agencies, GPs and other drug services were least likely to. The qualitative findings suggest that long-term users of mental health services are usually supported to attend by mental health workers and that long-term retention in treatment is probably a function of slow progress toward motivational, cognitive and psychosocial goals of treatment.

Qualitative findings also highlight differing levels of motivation, particularly between the self-referred and those “coerced into treatment” through CJS routes. Services were very mindful of this and expressed varying degrees of anxiety about the impact that clients who lack motivation to achieve and sustain abstinence may have on the ambience and regime of the services – particularly where there was a significant investment in group work (e.g. London) or extensive interaction of clients in open access Tier 2 settings (e.g. both Manchester services).

7. The proportion of female clients referred and in treatment was comparable to that observed in opiate-based services. Barriers to women accessing treatment were identified.

Women made up a quarter of the referred population (26%) and 23 per cent of the crack users in treatment at Tier 3. This is comparable to the proportion of women in opiate treatment populations (Gossop *et al.*, 1998).

The lack of childcare was cited (in all services) as a barrier to attracting, engaging and retaining women. Our study therefore echoes previous work in relation to the access and retention of women in drug services (Becker and Duffy, 2002). Becker and Duffy (2002) highlight the role of outreach work with women as a potential mechanism for overcoming some of the barriers to access. Some of the keyworkers in our study explained that they saw a need for home visits to clients with children, although lack of resources precluded this. This is of particular concern given that other studies indicate women may be more likely to relapse back into crack use after treatment (Harocopos *et al.*, 2003).

More hidden and subtle forms of unintentional and indirect discrimination of women can also occur in interventions such as group work (and even drop-ins) where women can feel marginalised and excluded. The qualitative findings suggest that the links for women between problematic substance

misuse and experience of violence (including domestic violence) and exploitation (including sex work) that have been well described (Vogt, 1998; Department of Health, 2002) were factors in this. Mixed group work interventions may not be appropriate for women because of involvement in sex work, or previous violence from men who may be attending the same group. In relation to gender, there is a danger that the macho image of crack may also contribute to the under development of services to women.

In contrast to the invisibility of childcare in services, issues of child protection are very visible. Echoing the findings of Becker and Duffy (2002), service staff identified the stigma and fear that children will be taken into care as a key barrier to women approaching services. This is not to deny the child protection issues which may be involved, but to highlight discourses in which mothers (rather than fathers or social conditions) are seen as responsible for long-term outcomes of their children's emotional, and educational development, as well as criminal trajectories, and are possibly therefore subject to more specific and punitive regulation of their behaviours (Burman, 1994; Walkerdine and Lucey, 1989; Chantler *et al.,* 1998). It is unclear whether child protection social workers have sufficient understanding of crack (as opposed to opiate) use and treatment to assess and support a crack-using mother's potential for change.

8. The proportion of clients from Black and minority ethnic groups varied between services, but was relatively high compared with opiate-based services. Attrition among Black and Asian clients was not significantly different from that of white clients.

The population referred to these services was predominantly male and in their 30s (whether male or female). Within the aggregated population of the four Tier 3 services, most clients were white British, though this was not the case at all centres and the ethnic profile of the study population was more diverse than has been described in UK opiate treatment populations (Gossop *et al.*, 1998). However, we do not know the extent to which the population referred to these services were representative of age, gender and ethnic profile of problematic crack users in the catchments of these services.

Our findings do not provide any evidence to suggest that either the women or the Black and ethnic minority groups were any less likely to engage with, and be retained in, treatment than white British men. Hence, there was no evidence that attrition was associated with gender or ethnicity.

Previous studies have shown that crack users from Black and ethnic minority groups were less likely to use heroin and less likely to inject (Harocopos *et al.*, 2003). It is tempting to speculate that specialist crack services that are separate from opiate services may therefore be more appropriate, acceptable and attractive to Black and ethnic minority groups.

9. Powerful and critical points were made in the accounts of staff and clients about the construction and categorisation of drugs, and the way in which these could become "racialised" and gendered. Issues relating to the practice of ethnic monitoring and the practicalities of cultural matching require further careful consideration.

The qualitative investigation paid particular attention to the manner in which services work with Black and minority ethnic groups, and the experience that such clients have of treatment. A number of commentators have observed how social constructions of violence, "madness" induced by crack, together with concerns over street level activity and acquisitive crime have fed into particular racial stereotypes (Chantler *et al.*, 2001; Burman, 2003).

Conceptualisations such as "normalised absence/pathologised presence" (Phoenix, 1987) appear to be of particular relevance in this context and help illuminate the issues some services described in working with marginalised communities. Phoenix (1987), argues that "normalised absence" refers to the neglect of issues affecting African-Caribbean people (or other marginalised groups) in welfare policies. "Pathologised presence" arises when the needs of marginalised communities are considered, but may become pathologised in the process.

Another dynamic at play is that marginalised communities themselves become fearful of raising issues of "imperfections" within their own or the wider community for fear of fuelling racist stereotypes. These issues were strikingly evident in the accounts of some workers at the service who were concerned that disproportionately high representation of Afro-Caribbean/Black British clients on caseloads (which can clearly be seen as evidence of successful engagement with these populations) should not reinforce stereotypical associations between drug use and ethnicity. Such anxiety has the potential to silence discussion and to paralyse action and interventions targeted at marginalised groups (Chantler *et al.*, 2001; Burman, 2003).

10. The frequency, duration and content of keywork varied significantly between, and within, services. However, keywork could often be extremely intensive (particularly in the early stage of treatment) and workers appeared to require an eclectic range of generic skills to meet the presenting needs of clients.

The keyworker-client relationship is probably the key therapeutic component of Tier 3 services (Luborsky *et al.*, 1997). While the quantitative data about keywork demonstrated the flexible, intensive and eclectic nature of this work, the qualitative study also identified some critical aspects of keywork practice. Specifically, keywork needs to be person-centred and based on approaches to individual counselling (with or without group work) that have been shown to be effective in relation to cocaine use in other settings (Crits-Christoph *et al.*, 1997; Crits-Christoph *et al.*, 1999; Strain, 1999).

Moreover, keyworkers need to ensure interventions are:

- Tailored to individual circumstances
- "Motivational"
- Non-judgemental (while at times being challenging)
- Founded on respect and empathy.

The value of intensive case work, and the relative importance of contact frequency, individual contact duration and overall time in treatment is uncertain (Alterman *et al.*, 1996; Coviello *et al.,* 2001) and justifies further investigation.

Complementary therapies employed in a significant minority of cases were valued by some clients and seen as a useful tool in retaining them. These were usually provided as adjuncts to cocaine abuse interventions to alleviate the anxiety, depression and detrimental emotional effects of the initial (and continued) period of abstinence (Wallace, 1991). Most research has focused upon acupuncture, but there is little evidence for its effectiveness (Witton and Ashton, 2002).

11. The pattern of engagement and keyworking with clients of crack treatment services may be quite different from that seen in opiate services.

Clients can, and do stay in treatment for several months. Clients of these services may also have a series of short treatment episodes spanning several years. Sporadic and repeated treatment episodes are possible and probable, as the client does not rely on substitute prescribing. Crack services therefore need to offer attractive, intensive and relatively brief interventions that, despite some standardisation, appear to be client-led.

12. Clients of Tier 3 services retained in treatment at 30-days and 90-days achieved large and statistically significant reduction in the frequency of crack use and the amount spent on crack.

13. Most clients of the Tier 4 residential service complied with the treatment regime, reported benefits in terms of their self-rated health and motivation, and achieved abstinence during their admission.

The assessment of treatment outcomes that we were able to undertake was limited. Nevertheless, our analysis does suggest that among clients who were retained in treatment at 30-days and 90-days there were large and statistically significant reductions in both the frequency of crack use and the amount clients spent on crack. There were also observed increases in the proportions of clients in treatment at these 30- and 90-day assessment points who were abstinent from crack. However, these latter differences did not attain statistical significance.

This research shows that if clients of Tier 3 services can be retained in treatment – even for 30 days – they can achieve significant reductions in their use of crack. However, clients that stay in treatment for this period of time represent a relatively small proportion (28.8%) of the total population referred for treatment, and only 58 per cent of those who start treatment. Other studies suggest that clients who drop out of treatment early tend to have poorer outcomes than those who are retained in treatment (Gottheil *et al.,* 1997; Simpson *et al.,* 1995). However, we do not know what the outcomes are for those clients who have brief contact with the services we evaluated.

6.3 Study limitations

Despite the significance of these key findings, certain important study limitations need to be acknowledged before we draw out the implications for practice.

The main study limitation has been our inability to collect self-reported outcome data from the clients of these services. Given the resources available to us, we were unable to have the necessary fieldworker presence in the services to maximise recruitment at baseline and to ensure clients were not lost to follow-up by the research – even if they had defaulted on treatment. In the circumstances, there was no alternative but to rely on the clinical teams to recruit and consent clients on our behalf, and to use self-completion questionnaires to obtain responses from the clients. In retrospect this placed the clinical teams in a difficult position. It was not easy for keyworkers to reconcile the clinical imperative towards careful engagement with the research imperative of obtaining informed consent and the earliest possible completion of baseline assessments. This unquestionably impacted upon our rates of recruitment and the response rates at the 30-day and 90-day assessment points.

This problem of low recruitment and response rates were compounded by unanticipated issues that arose in relation to casemix and retention in treatment:

- During the study period, some of the services experienced a reduction in the referral of crack users (though increased referral of cocaine powder users and other stimulant drug users may have meant that the overall level of referral during the study period was not untypical).
- At the time we designed the study, there was limited information available about retention in treatment. We did not anticipate that there would be such high rates of attrition pre-assessment, and that so many clients who engaged with treatment would do so for as brief a period as they did. Given that so few remain in treatment at 90 days, the requirement in the original tender to assess treatment outcomes at six months now seems optimistic in the extreme. Our inability to assess the outcomes for clients who left treatment in between our 30-day and 90-day assessment points is a significant limitation.

The failure to achieve adequate self-reported data has had two further critical impacts:

- We have not been able to assess as wide a range of outcomes as we had intended. For example, measures of craving for crack, alcohol use, physical and mental health, social function and satisfaction with treatment could not be assessed in the Tier 3 services. Hence, our main outcome analysis has been based on data provided by keyworkers in relation to the frequency and quantity of crack use and involvement in criminal behaviour. In relation to the former, our sensitivity and specificity analysis indicated that these data were reliable and valid. It is also worth noting that certain data – notably about the daily spend on crack – was consistent with that reported by clients in other studies (Harocopos *et al.*, 2003). However, keyworkers were far less consistent in being able to report on the client's use of drugs other

than crack. In relation to crime, the sensitivity and specificity analysis suggests a need for extreme caution in interpreting the data provided by keyworkers. Keyworkers were unable to provide data about the frequency and types of crime clients were involved with. However, reductions in the use of crack have been associated with reductions in criminal behaviour in other studies (Harocopos *et al.*, 2003).

- We have not had the statistical power to undertake any analysis of the outcomes experienced by sub-groups of crack users. We would have liked to examine the outcome for women and Black and minority ethnic groups, but the low number of cases with follow-up data has rendered this impossible. Most significantly of all, we have had to aggregate the data from all the services, irrespective of their different models of practice and irrespective of any heterogeneity within the populations of crack users that each succeeded in attracting into treatment. It is a positive finding that this analysis suggests that the interventions provided to those clients retained in treatment were effective in significantly reducing consumption of crack. However, we cannot (at least on the basis of the quantitative data) start to identify what the critical ingredients of these complex treatment packages might be and whether either of the models represented in our final outcome analysis performed with greater or lesser success than another.

Finally, although an analysis of unit cost was completed this was limited in scope. Moreover, variations in the intensity and duration of treatment, uncertainty about the extent to which some patients received brief interventions and the lack of evidence about treatment outcomes, means that extreme caution should be exercised in the interpretation of these data. Any temptation to make “value for money” comparisons between the services should be avoided.

6.4 Conclusions

Specialist crack treatment services in the UK are relatively new and do not have an established evidence base. This evaluation has provided new evidence about the operation of services, which provide a range of psychosocial interventions through case work and day programmes that have varying degrees of structure and intensity. However, our evidence about treatment outcome is limited and, in truth, raises as many questions as it answers.

However, while only a small proportion of the referred population, clients who remained in treatment for 30 days were found to significantly reduce their crack use. And while the increase in the proportion of clients that achieved complete abstinence was not statistically significant, the marked reductions in the frequency and quantity of crack use we observed is clearly a positive finding. If these reductions in crack use were shown to be associated with reductions in criminal activity (which our somewhat less reliable crime outcome data suggests might be possible) then this outcome would undoubtedly have to be viewed as even more positive and important.

It is frustrating that this research project cannot provide any quantitative evidence either to support, or to refute, the hypothesis (that to some extent the qualitative work encourages) that a proportion of the clients who spend brief periods in treatment may also derive important benefits from their contact with the service.

Judged in terms of recruitment, engagement and measures of retention conventionally applied to opiate treatment, the Tier 3 services we evaluated do not appear to perform well. Less than half of referrals start treatment and the clients who complete 30 days of treatment number fewer than three in every ten referrals. However, this conclusion has to be seen within the context of structural issues, such as pressure of demand on services (e.g. in Birmingham), and funding anomalies beyond the control of services (e.g. the London Tier 3 service). It also has to be recognised that crack services lack the incentive to engagement of prescribing substitutes, that crack use is possibly more stigmatising than opiate use (through stereotypical associations with violent crime), and that brief interventions may have a positive outcome because the drug is not physically addictive.

1. What conclusions should we draw from this mixture of positive and negative finding?

2. How much do the outcome findings support the case for further development of specialist crack treatment services, and by how much is this case undermined by the high levels of attrition that we observed?

Before attempting to answer these questions let us raise a number of factors that need to be considered when assessing these findings:

- Firstly, it is debatable whether conventional measures of retention provide an appropriate basis to evaluate beneficial engagement with specialist crack treatment services. Clients can, and do stay in treatment for extended periods, but for the most part clients appear to demand (client-defined) time-limited interventions that are short-term and in some cases episodic. We therefore believe it would be wrong to interpret the relatively brief engagement with treatment of many clients as unequivocal evidence of a negative outcome in these cases.
- Secondly, most of the clients these services had engaged had not previously sought help for their crack problem and had no other drug service contact. Relative to opiate treatment services, the crack services we evaluated had recruited a larger proportion of clients from Black and minority ethnic groups and retained these clients in treatment at a similar rate to white British clients. Over 80 per cent of clients from Black and minority ethnic groups had no other drug service contact. This supports the notion that generic drug services are probably not seen as attractive or appropriate to Black and minority ethnic crack users, and that these services were more successful in this regard.
- Third, nearly two thirds of the referred population who did not attend for assessment were referred either by criminal justice agencies or by other drug services. The difficulties of engaging referrals from criminal justice agencies are well established and not unique to crack services.
- Fourth, the evaluation suggests that "pre-treatment attrition" may be reduced when clients are able to access Tier 2 interventions at (or rapidly after) referral, and by ensuring rapid assessment and initiation of treatment. This evidence should:
  - Inform the future configuration of services
  - Ensure that approaches with the potential to maximise early engagement are implemented
  - Ensure that services have the resources to respond to increased demand.

For these reasons, we believe that further research is needed to investigate, more rigorously than we were able, the outcomes for clients on an intention to treat basis. This will require funders of research to invest enough resources into studies to allow investigators to undertake intensive community follow-up of clients.

While there is a need for enhanced treatment of polydrug users receiving opiate substitution therapy, clinics orientated to opiate substitution therapy may not be the appropriate setting in which to treat primary crack users. Our qualitative investigation of treatment processes suggest that treatment outcomes are heavily dependent on staff-client relationships as the key medium of psychosocial treatment, with "empowerment to change" as the key mechanism. It is not clear that this emphasis can be maintained in a prescribing clinical setting.

In the US, forms of contingency management have been shown to be a highly effective intervention for crack use in the context of opiate substitution therapy. Contingency management is based on principles of behaviour modification and involves rewarding subjects for their attainment of targeted behaviours that can be unambiguously defined and regularly measured (e.g. abstinence and compliance with clinic appointments). A review of 14 trials of contingency management that targeted cocaine abuse in the context of opiate dependency found that all but one reported positive outcomes (Higgins *et al.,* 2004). Moreover, the review showed that reduced cocaine use achieved during treatment could be sustained beyond the treatment programme (Petry *et al.*, 2001).

Hence, a twin track approach to service development appears to be justified:

- Firstly, there is a need to implement and evaluate promising interventions that are appropriate to the treatment of crack and other stimulant use in the context of opiate substitution therapy. This is likely to have significant implications for staff training (Harocopos *et al.*, 2003) and, depending on the type of interventions adopted, also service ethos and regime.
- Second, the development of specialist stimulant treatment services should continue on the basis of emerging best practice and in accordance with the need to achieve an evidence-base about the effectiveness of the emerging approaches to case management that we observed.

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